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CONTINUATION OF THE  
BULLETIN OF THE NUTTALL ORNITHOLOGICAL CLUB

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VOL. XLVII }

# The Auk

**A Quarterly Journal of Ornithology**

EDITOR  
WITMER STONE



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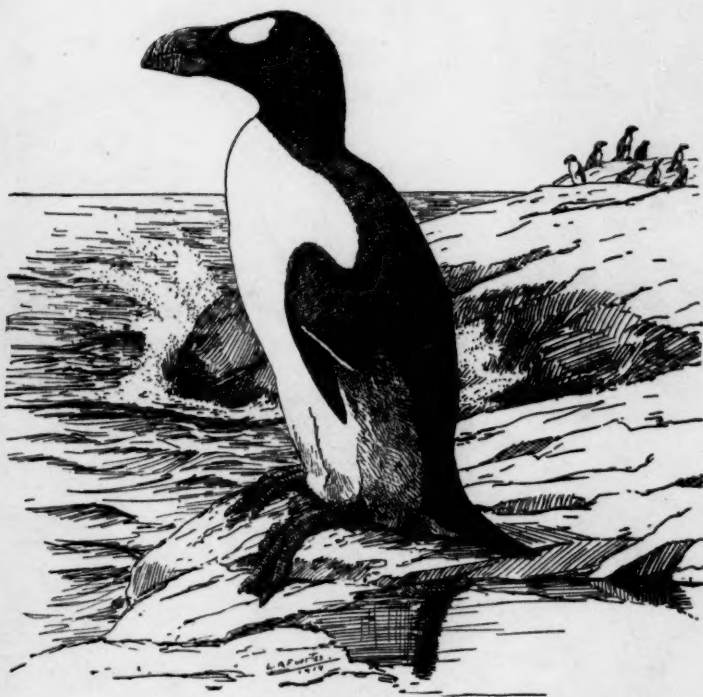
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## CONTENTS.

IN MEMORIAM: JONATHAN DWIGHT. By J. H. Fleming. (Plate I) . . . . .	1
IN MEMORIAM: NEWBOLD TROTTER LAWRENCE. By Maunsell S. Crosby. (Plate II) . . . . .	7
BRITISH BIRDS AT A GLANCE. By Bayard H. Christy . . . . .	11
METHODS OF INDICATING RELATIVE ABUNDANCE OF BIRDS. By Lee R. Dice . . . . .	22
THE PRAIRIE FALCON IN THE STATE OF WASHINGTON. By F. R. Decker and J. Hooper Bowles. (Plate III) . . . . .	25
THE SONG PERIOD OF BIRDS OF NORTHWEST ARKANSAS. By W. J. Baerg . . . . .	32
DESCRIPTION OF A NEW SUBSPECIES OF THE PRAIRIE WARBLER, WITH REMARKS ON TWO OTHER UNRECOGNIZED FLORIDA RACES. By Arthur H. Howell . . . . .	41
NOTES ON THE BIRDS OF ST. MARTIN AND ST. EUSTATIUS. By Stuart T. Dan- forth. . . . .	44
NOTES ON THE BIRD LIFE OF NORTHWESTERN WASHINGTON. By Thomas D. Burleigh. (concluded) . . . . .	48
ONTARIO BIRD NOTES. By J. H. Fleming . . . . .	64
GENERAL NOTES.—Leach's Petrel in Ohio, 72; Bonaparte's Gull at Lexington, Virginia, 72; White Pelicans Killed by Lightning, 72; Bahama Pintail in Wisconsin, 73; White Herons in Dutchess County, N. Y., 73; Egret in Crawford County, Pa., 74; Egret near Lake Erie, 74; Yellow-crowned Night Heron Taken at Wheeling, West Virginia, 75; Another Yellow-crowned Night Heron at Ipswich, Mass., 75; Roseate Spoonbill in Florida, 75; Wilson's Phalarope in Camden County, N. J., 76; Northern Phalarope in Jackson Co., Mich., 76; Nest and Eggs of <i>Psoblia ruficollis</i> , 76; The Marbled Godwit in Essex Co., Mass., 77; Upland Plover in Oregon, 78; Companionate Feeding Activities of a Spotted Sandpiper and a Red-winged Blackbird, 78; Sexual Differentiation in the Plumage of the Black-bellied Plover, 79; Golden Plover near Dover, Delaware, 80; A Bobwhite X California Quail Hybrid, 80; The Turkey Vulture in Western New York, 81; The Black Vulture in Southwest Virginia, 81; An Osprey Tragedy, 81; Duck Hawk and the Evening Incoming of the Starlings at Washington, D. C., 82; A Spring Flight of Broad-winged Hawks, 83; Winter Nesting of the Barn Owl, 84; Great Horned Owl vs. Barn Owl, 84; Red-headed Woodpeckers in Migratory Flight, 84; New Name for <i>Caprimulgus ridgwayi</i> minor, 85; A Barbet New to Science from Kenya Colony, 85; Swiftlets and a Manobo, 86; Canada Jay in Southern Minnesota, 87; The First Appearance and Breeding of the Starling in South Carolina, 87; A New Race of <i>Phibalura flavirostris</i> from Bolivia, 87; Late Nesting of the Cedar Waxwing in North Carolina, 88; Efficiency of Propagation of Barn Swallows, 89; Cerulean Warbler in Holderness, New Hampshire, 90; The Blue-winged Warbler and the Sycamore Warbler in the North Carolina Mountains, 90; The Distribution Westward of <i>Seiurus noveboracensis noveboracensis</i> , 91; Bill Deformity of a Catbird, 93; Blue-gray Gnatcatcher at Throop, Pa., 93; Rare Connecticut Birds in Sanctuary Collection, 93; Notes from Washington, D. C., 94; Notes from Eastern Maryland, 94; Further Water Bird Notes from the Florida East Coast, 95; Five Additions to the Birds of Florida, 96; Notes from Illinois, 97; Notes from Brownsville, Texas, 98; Four New Birds for Montana, 98; A Record Banding Return, 99; Notes on the Feeding Relations of Some Spring Birds during a late Snow Storm, 100; An Ancient Bird Skin, 101; An Unpublished Letter of John K. Townsend, 101.	
RECENT LITERATURE.—Muschamp's 'Audacious Audubon,' 103; Chapman's 'My Tropical Air-Castle,' 104; 'Carl Akeley's Africa,' 105; Ohlsholm's 'Birds and Green Places,' 106; Scoville's 'Wild Honey,' 107; Hose's 'Field Book of a Jungle Wallah,' 108; Lowe's List of Birds in the London Zoo, 109; Recent Papers on Birds of Paradise, 109; Shoffner's 'Bird Book,' 110; Boas on the Structure of the Bird's Wing, 110; Rowan on Manipulation of the Reproductive Cycle, 110; Hellmayr on Birds from Central Asia, 111; Roosevelts' 'Trailing the Giant Panda,' 112; Aves for 1928, 112; Hellmayr's 'Birds of the Americas,' 113; Collin's 'Index Ornithologicus,' 113; Chapman on Birds from Mt. Duida, 113; Griscom on Guatemalan Birds, 114; Murphy on <i>Pterodroma cookii</i> , 114; Murphy and Chaplin on Birds from the Azores, 114; Linsdale on Birds of Eastern Kansas, 115; Laing and Taverner on Birds of the Chitna River Region, 115; Peters on Honduras Birds, 115; Austin on Birds from British Honduras, 116; Bullock on Birds of Angol, Chile, 116; Lönnberg on the African Fauna, 116; Thomson on the Migration of the European Woodcock, 117; Recent Papers by Austin Roberts, 117; Tugarinow on the Birds of North Mongolia, 117; Ivanow on Birds of the Yakutsk District, 118; Shorter Papers, 118; The Ornithological Journals, 121; Ornithological Articles in Other Journals, 130.	
OBITUARIES.—Henry Nehrling, 133; Archibald James Campbell, 133; Dr. John Albert Leach, 134; Alfred Marshall, 134.	
NOTES AND NEWS.—Dr. T. S. Palmer—Personal Mention, 136; Sale of a Great Auk, 136; Investigation of the Canada Jay Flight, 136; Expeditions of the Philadelphia Academy, 136; Dr. A. K. Fisher—Personal Mention, 136.	

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## CONTENTS OF VOLUME XLVII.

### NUMBER I.

	PAGE
IN MEMORIAM: JONATHAN DWIGHT. By <i>J. H. Fleming</i> . (Plate I)....	1
IN MEMORIAM: NEWBOLD TROTTER LAWRENCE. By <i>Maunsell S. Crosby</i> . (Plate II).....	7
BRITISH BIRDS AT A GLANCE. By <i>Bayard H. Christy</i> .....	11
METHODS OF INDICATING RELATIVE ABUNDANCE OF BIRDS. By <i>Lee R. Dice</i> .....	22
THE PRAIRIE FALCON IN THE STATE OF WASHINGTON. By <i>F. R. Decker</i> and <i>J. Hooper Bowles</i> . (Plate III).....	25
THE SONG PERIOD OF BIRDS OF NORTHWEST ARKANSAS. By <i>W. J. Baerg</i> .....	32
DESCRIPTION OF A NEW SUBSPECIES OF THE PRAIRIE WARBLER, WITH REMARKS ON TWO OTHER UNRECOGNIZED FLORIDA RACES. By <i>Arthur H. Howell</i> .....	41
NOTES ON THE BIRDS OF ST. MARTIN AND ST. EUSTATIUS. By <i>Stuart T. Danforth</i> .....	44
NOTES ON THE BIRD LIFE OF NORTHWESTERN WASHINGTON. By <i>Thomas D. Burleigh</i> . (concluded).....	48
ONTARIO BIRD NOTES. By <i>J. H. Fleming</i> .....	64

### GENERAL NOTES.

Leach's Petrel in Ohio, 72; Bonaparte's Gull at Lexington, Virginia, 72; White Pelicans Killed by Lightning, 72; Bahama Pintail in Wisconsin, 73; White Herons in Dutchess County, N. Y., 73; Egret in Crawford County, Pa., 74; Egret near Lake Erie, 74; Yellow-crowned Night Heron Taken at Wheeling, West Virginia, 75; Another Yellow-crowned Night Heron at Ipswich, Mass., 75; Roseate Spoonbill in Florida, 75; Wilson's Phalarope in Camden County, N. J., 76; Northern Phalarope in Jackson Co., Mich., 76; Nest and Eggs of *Pisobia ruficollis*, 76; The Marbled Godwit in Essex Co., Mass., 77; Upland Plover in Oregon, 78; Companionate Feeding Activities of a Spotted Sandpiper and a Red-winged Blackbird, 78; Sexual Differentiation in the Plumage of the Black-bellied Plover, 79; Golden Plover near Dover, Delaware, 80; A Bobwhite  $\times$  California Quail Hybrid, 80; The Turkey Vulture in Western New York, 81; The Black Vulture in Southwest Virginia, 81; An Osprey Tragedy, 81; Duck Hawk and the Evening Incoming of the Starlings at Washington, D. C., 82; A Spring Flight of Broad-winged Hawks, 83; Winter Nesting of the Barn Owl, 84; Great Horned Owl vs. Barn Owl, 84; Red-headed Woodpeckers in Migratory Flight, 84; New Name for *Caprimulgus ridgwayi* minor, 85; A Barbet New to Science from Kenya Colony, 85; Swiftlets and a Manobo, 86; Canada Jay in Southern Minnesota, 87; The First Appearance and Breeding of the Starling in South Carolina, 87; A

New Race of *Phibalura flavirostris* from Bolivia, 87; Late Nesting of the Cedar Waxwing in North Carolina, 88; Efficiency of Propagation of Barn Swallows, 89; Cerulean Warbler in Holderness, New Hampshire, 90; The Blue-winged Warbler and the Sycamore Warbler in the North Carolina Mountains, 90; The Distribution Westward of *Seiurus noveboracensis noveboracensis*, 91; Bill Deformity of a Catbird, 93; Blue-gray Gnatcatcher at Throop, Pa., 93; Rare Connecticut Birds in Sanctuary Collection, 93; Notes from Washington, D. C., 94; Notes from Eastern Maryland, 94; Further Water Bird Notes from the Florida East Coast, 95; Five Additions to the Birds of Florida, 96; Notes from Illinois, 97; Notes from Brownsville, Texas, 98; Four New Birds for Montana, 98; A Record Banding Return, 99; Notes on the Feeding Reactions of Some Spring Birds during a late Snow Storm, 100; An Ancient Bird Skin, 101; An Unpublished Letter of John K. Townsend, 101.

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Muschamp's 'Audacious Audubon' 103; Chapman's 'My Tropical Air-Castle,' 104; 'Carl Akeley's Africa,' 105; Chisholm's 'Birds and Green Places,' 106; Scoville's 'Wild Honey,' 107; Hose's 'Field Book of a Jungle Wallah,' 108; Lowe's List of Birds in the London Zoo, 109; Recent Papers on Birds of Paradise, 109; Shoffner's 'Bird Book,' 110; Boas on the Structure of the Bird's Wing, 110; Rowan on Manipulation of the Reproductive Cycle, 110; Hellmayr on Birds from Central Asia, 111; Roosevelt's 'Trailing the Giant Panda,' 112; Aves for 1928, 112; Hellmayr's 'Birds of the Americas,' 113; Collin's 'Index Ornithologicus,' 113; Chapman on Birds from Mt. Duida, 113; Griscom on Guatemalan Birds, 114; Murphy on *Pterodroma cookii*, 114; Murphy and Chapin on Birds from the Azores, 114; Linsdale on Birds of Eastern Kansas, 115; Laing and Taverner on Birds of the Chitna River Region, 115; Peters on Honduras Birds, 115; Austin on Birds from British Honduras, 116; Bullock on Birds of Angol, Chile, 116; Lönnberg on the African Fauna, 116; Thomson on the Migration of the European Woodcock, 117; Recent Papers by Austin Roberts, 117; Tugarinov on the Birds of North Mongolia, 117; Ivanow on Birds of the Yakutsk District, 118; Shorter Papers, 118; The Ornithological Journals, 121; Ornithological Articles in Other Journals, 130.

#### OBITUARIES.

Henry Nehrling, 133; Archibald James Campbell, 133; Dr. John Albert Leach, 134; Alfred Marshall, 134.

#### NOTES AND NEWS.

Dr. T. S. Palmer—Personal Mention, 136; Sale of a Great Auk, 136; Investigation of the Canada Jay Flight, 136; Expeditions of the Philadelphia Academy, 136; Dr. A. K. Fisher—Personal Mention, 136.

#### NUMBER II.

	PAGE
IN MEMORIAM: EDWARD HOWE FORBUSH. By T. Gilbert Pearson.	
(Plate IV).....	137
IN MEMORIAM: FREDERICK AUGUSTUS LUCAS. By Charles Haskins	
Townsend. (Plate V).....	147



THE LIFE HISTORY OF SCOPUS UMBRETTA BANNERMANI C. GRANT IN NATAL, SOUTH AFRICA. By <i>Raymond B. Cowles</i> . (Plates VI-IX)	159
A HISTORICAL SKETCH OF BOTTERI'S SPARROW. By <i>Francis Harper</i> (Plate X).....	177
THE AGE OF THE SUPPOSED CRETACEOUS BIRDS FROM NEW JERSEY. By <i>Alexander Wetmore</i> .....	186
AN ATTEMPT TO RESTORE THE CLIFF SWALLOW TO NEW JERSEY. By <i>B. S. Bowdish</i> .....	186
THE BREEDING BIRDS OF PEKING AS RELATED TO THE PALEARCTIC AND ORIENTAL LIFE REGIONS. By <i>George D. Wilder</i> .....	194
SUBDIVISIONS OF THE SPECIES EMBERIZA RUSTICA INTO GEOGRAPHICAL RACES. By <i>Leonidas Portenko</i> .....	205
THE HAWK QUESTION. <i>Editorial and Correspondence</i> .....	208
THE FORTY-SEVENTH STATED MEETING OF THE AMERICAN ORNITHOLOGISTS' UNION. By <i>T. S. Palmer</i> .....	218
REPORT OF THE SECRETARY. By <i>T. S. Palmer</i> .....	231

# GENERAL NOTES.

Peculiar Actions of the Loon (*Gavia immer*), 238; Notes on a Holboell's Grebe in Captivity, 238; A Flight of Holboell's Grebes (*Colymbus holboellii*) at Toronto, 240; Holboell's Grebe in Pennsylvania, 241; Black Guillemot (*Cepphus grylle*) at Cape May, N. J., 242; White Pelican (*Pelecanus erythrorhynchos*) in Georgia, 242; The Long-tailed Jaeger in Ohio, 242; The European Black-headed Gull (*Larus ridibundus*) in North America, 243; That Alberta Bean Goose—A Correction, 243; The Brant (*Branta bernicla glaucogaster*) on the South Carolina Coast, 244; Nuptial Performance of the Hooded Merganser, 244; Great Blue Heron Fishing in Deep Water, 245; Note on the Courtship of the Bittern (*Botaurus lentiginosus*), 246; Early Nesting of the Bittern (*Botaurus lentiginosus*) in South Jersey, 247; Carolina Rail (*Porzana carolina*) Wintering in Colorado, 247; Abundance of Wintering Limicolae on the Florida West Coast, 247; Notes on the American Woodcock in central West Virginia, 248; Another Record of the Red Phalarope in Ohio, 249; Extension of the Winter Range of the Piping Plover (*Charadrius melodus*), 250; Turkey Vulture at Chatham, Mass., 250; Turkey Vulture in Westchester Co. N. Y., 251; Turkey Vulture Wintering in Calhoun Co., Mich., 251; Notes on the Senses of Vultures, 251; Long-eared Owl at Lexington, Va., 252; The Short-eared Owl (*Asio flammeus flammeus*) in the District of Columbia, 253; The Florida Barred Owl in North Carolina, 253; Downy Woodpecker and Moth Cocoons, 253; On the Proper Name of the "Parauque," 254; Arkansas Kingbird (*Tyrannus verticalis*) on Long Island, N. Y., 254; Habits of the Rocky Mountain Jay (*Perisoreus canadensis capitalis*), 254; A Raven in Baltimore County, Maryland, 255; An Unusual Flight Manoeuvre of the Northern Raven, 255; Starlings in Western Illinois in Quantity, 255; Starling in Arkansas, 256; The Starling in Kansas, 256; Evening Grosbeak (*Hesperiphona vespertina*) on Long Island, New York, 256; Evening Grosbeak (*Hesperiphona vespertina*) at Cape May, N. J., 256; Nelson's Sparrow (*Passerherbulus nelsoni*) at Waukegan, Ill., 257; Clay-colored Sparrow (*Spizella pallida*) in South Carolina, 257; Note on the Eastern Song Sparrows, 257; Blue Grosbeak on Cape Cod, Mass., 257; A Deformed English Sparrow, 258;

Decrease in the English Sparrow, 268; Where do Cliff Swallows Place their Nests?, 259; Nesting of the Rough-winged Swallow in the Pocono Mountains, Pennsylvania, 260; Late Nesting of the Cedar Waxwing, 260; Migrant Shrike (*Lanius ludovicianus migrans*) in New York in Winter, 260; Winter Occurrence of Yellow-Palm Warbler in Western Virginia, 260; Sycamore Warbler in Indiana in Early April, 261; Maryland Yellow-throat in Pennsylvania in Winter, 261; Connecticut Warbler at Philadelphia in Spring, 261; Mockingbird Nesting in Pennsylvania, 262; A Mockingbird at Plainfield, N. J., 262; Short-billed Marsh Wren (*Cistothorus stellaris*) in Maryland, 262; Tufted Titmouse and Towhee at Madison, Wisc., in Winter, 262; Song of the Gray-cheeked Thrush, 263; The Song of Bicknell's Thrush—A Correction, 263; Dickcissel and White-winged Dove on Long Island, New York, 265; Some Recent Notes from Coastal South Carolina, 265; Unusual Winter Records from Southern Georgia, 266; Notes from Florida, 267; Some Unusual Bird Records from Isle Royale, Michigan, 267; Late Nestings in Ohio, 268; Recent Notes from the Chicago Area, 268; Some Bird Records for Oklahoma, 269; Notes on Jamaican Birds, 269; Notes on the Birds of St. Croix, U. S. V. I., 270; Egg Weights and Measurements—A Correction, 271.

#### RECENT LITERATURE.

Forbush's 'Birds of Massachusetts and Other New England States,' 272; Bates' 'Handbook of the Birds of West Africa,' 273; Priest's 'Guide to the Birds of Southern Rhodesia,' 274; Saunders' 'Summer Birds of the Northern Adirondacks,' 274; Kirke Swann's 'Monograph of the Birds of Prey,' 275; Devincenzi's 'Birds of Uruguay,' 275; Wetmore's 'Migrations of Birds,' 276; Canadian Bird Cards, 276; Soper on the Breeding Grounds of the Blue Goose, 276; Lewis on the Double-crested Cormorant, 276; Jewett and Gabrielson on Birds of Portland, 277; Wetmore's Classification of the Birds of the World, 278; Miller on Fossil Passeres from Rancho La Brea, 278; Zimmer on *Piranga flava*, 278; Meise on Bird Types in the Dresden Museum, 279; DeSchauensee on Siamese Birds, 279; Publications on Bird Banding, 279; Publications on Game Birds, 280; Stegmann on Birds of S. E. Transbaikial, 280; Wetmore's "Ornithology" in Encyclopaedia Britannica, 281; Economic Ornithology in Recent Entomological Publications, 282; Food Habits of *Tyrannus dominicensis vorax* in Barbados, 284; Economic Notes on Birds of the Malay Archipelago, 284; Shorter Papers, 285; The Ornithological Journals, 287.

#### CORRESPONDENCE.

Extermination of the Azorean Bullfinch, 297; Saving Disappearing Species, 302; Henderson's 'The Practical Value of Birds,' 302.

#### OBITUARIES.

John James Dalgleish, 305; Eiler Lehn Schiöler, 305; Justus von Lengerke, 306; De Lagnel Berier, 307; Dr. Charles Ayrault Dewey, 308; Frank Aleman Leach, 308; John A. Leach,—Correction, 309.

#### NOTES AND NEWS.

The Eagle Bill, 310; Salem Meeting of the A. O. U., 310; The A. O. U. Check-List, 310; Nominations of Fellows and Members, 311; Deceased Members of the A. O. U., 310; Audubon's Diaries, 312; Issues of 'The Auk' Desired, 312.



## NUMBER III.

	PAGE
THE HABITS AND NESTING ACTIVITIES OF THE NORTHERN TODY FLY-CATCHER IN PANAMA. By <i>Alexander F. Skutch</i> . (Plate XI).....	313
ON THE FOOD OF CERTAIN OWLS IN EAST-CENTRAL ILLINOIS. By <i>Alvin R. Cahn</i> and <i>Jack T. Kemp</i> .....	323
A CRITIQUE OF OOLOGICAL DATA. By <i>Tracy I. Storer</i> .....	329
NESTING OF TRUDEAU'S TERN AND DESCRIPTION OF THE YOUNG. By <i>D. Bernard Bull</i> .....	335
A STUDY OF A NESTING OF BLACK-THROATED BLUE WARBLERS. By <i>Margaret Morse Nice</i> .....	338
FAVORITE COLORS OF HUMMINGBIRDS. By <i>A. L. Pickens</i> .....	346
WATER BIRDS OBSERVED ON THE ARCTIC OCEAN AND THE BERING SEA, IN 1928. By <i>F. L. Jacques</i> .....	353
ON THE BODY TEMPERATURE OF NESTING ALTRICIAL BIRDS. By <i>Leon L. Gardner</i> .....	367
BIRDS AS A FACTOR IN THE CONTROL OF A STOMACH WORM IN SWINE. By <i>Eloise B. Cram</i> .....	380
A PRELIMINARY STUDY OF THE EFFECTS OF TEMPERATURE ON THE TIME OF ENDING OF THE EVENING SONG OF THE MOCKINGBIRD. By <i>Jesse M. Shaver</i> and <i>Gladys Walker</i> .....	385
TWO AND A HALF YEARS OF BIRD MIGRATION AT CLEMSON COLLEGE, S. C. By <i>George E. Hudson</i> .....	397
THE SCREECH OWLS OF EASTERN NORTH AMERICA. By <i>Outram Bangs</i>	403
THE IDENTITY OF THE TOUCANS DESCRIBED BY LINNAEUS IN THE 10TH AND 12TH EDITIONS OF THE SYSTEMA NATURA. By <i>James L. Peters</i> .....	405
A METHOD OF SALTING AND PREPARING WATER BIRD SKINS. By <i>Wharton Huber</i> . (Plate XII).....	409

## GENERAL NOTES.

Holboell's Grebe (*Colymbus holboelli*) in Georgia, 412; Simultaneous Loss of Primaries in Prenuptial Molt of Loon, 412; Townsend's Oregon Tubinares, 414; White Pelican (*Pelecanus erythrorhynchos*) in Georgia, 415; Capture of Blue Goose near Richmond, Virginia, 416; Note on the Roseate Spoonbill in Florida, 416; Killdeer Nesting in Connecticut, 416; Sharp-tailed Sandpiper in California, 417; The Broad-winged Hawk in Connecticut in Winter, 417; Pheasants Killing Quail, 417; Duck Hawk Wintering in Atlanta, Ga., 418; Stomach Contents of Barred Owl, 418; A Lark New to Science from North-Central Kenya Colony, 418; Interesting Case of Albinism, 419; Five Song Sparrows Raised with a Cowbird, 419; Evening Grosbeak in Delaware, 420; Lapland Longspur in Somerset County, New Jersey, in April, 420; Snow Bunting in Colorado, 421; The Blue Grosbeak in Colorado, 421; The Dickcissel (*Spiza americana*) in South Carolina, 421; Blue-winged Warbler in Barry County, Mich., 422; Maryland Yellow-throat in Pennsylvania in Winter, 422; Two North American Migrants on Las Tres Marias, 423; Notes from Madison, Wisconsin, 423; The Shorebird Flight of 1929 on the New Jersey Coast, 424; The Fall Migration

of Water Birds and Others at Reading, Pa., 427; Notes on Speed of Flight of Certain Water Birds, 428; Increasing the Power of Field Glasses, 429.

#### RECENT LITERATURE.

Journals of Audubon, 431; Allen's 'Book of Bird Life,' 432; Stuart Baker's 'Synonymy of the Birds of British India,' 433; Uchida's 'Photographs of Bird Life in Japan,' 433; 'The Bird Lovers' Anthology,' 433; Bangs on Types of Birds now in the Museum of Comparative Zoology, 434; Longstreet's 'Bird Study in Florida,' 435; Sclater's 'Systema Avium Aethiopicarum,' 435; Hachisuka's 'Contributions to the Birds of the Philippines,' 436; Collin's Index Ornithologicus, 436; Howell's 'Birds of Alabama,' 437; Patch's 'Holiday Meadow,' 437; German Studies on the Food of Hawks and Owls, 437; Abstract of Proceedings of the Linnaean Society, N. Y., 438; The Illinois Audubon Bulletin, 438; Golf Clubs as Bird Sanctuaries, 439; Shorter Papers, 439; The Ornithological Journals, 443.

#### OBITUARIES.

Arthur T. Wayne, 452; Hermann von Ihring, 452; Stephen A. Forbes, 453; Carl Friedrich Wilhelm Krukenberg, 454; Francis Cottle Willard, 455; George Clement Deane, 456; Edward Arnold, 457; Dana Jackson Leffingwell, 458; Edward Elton Armstrong, 459; Wiley Solon McCrea, 460; Barboza du Bocage, 460; John Austin Farley, 460; Resting Place of Charles Lucien Bonaparte, 462.

#### NOTES AND NEWS.

The Eagle Bill, 463; The New Check-List, 463; Bird Protection Abroad, 463; Allan Brooks' Plates, 464; Papers for the A. O. U. Meeting, 464.

### NUMBER IV.

	PAGE
NOTES ON THE NESTING OF THE AFRICAN GREEN HERON ( <i>Butorides atricapilla</i> ) IN NATAL. By <i>Raymond B. Cowles</i> . (Plates XIII-XIV).....	465
THE MECHANICAL RECORDING OF THE NESTING ACTIVITIES OF BIRDS. By <i>S. Charles Kendeigh</i> and <i>S. Prentiss Baldwin</i> . (Plates XV-XVIII).....	471
THE RABIE PAINTINGS OF HAITIAN BIRDS. By <i>Alexander Wetmore</i> . (Plates XIX-XXII).....	481
SOME STUDIES OF THE WATER OUZEL. By <i>Clyde E. Ehinger</i> .....	487
SEX OF THE INCUBATING KILLDEER. By <i>Gayle Pickwell</i> . (Plates XXIII-XXIV).....	499
THE DESTRUCTION OF BIRDS AT LONG POINT LIGHTHOUSE, ONTARIO, ON FOUR NIGHTS IN 1929. By <i>W. E. Saunders</i> .....	507
TEXAN BIRD HABITATS. II. By <i>C. W. G. Eifrig</i> .....	512
FURTHER RECORDS OF THE BIRDS OF THE BOSTON PUBLIC GARDEN. By <i>George B. Wellman</i> .....	523
NOTES FROM EASTERN LONG ISLAND, N. Y. By <i>W. Todd Helmuth</i> ....	528
NOTES ON BIRDS OF THE DELTA REGION OF THE PEACE AND ATHABASCA RIVERS. By <i>Clarence S. Jung</i> .....	533

NOTES ON SOME SUMMER BIRDS OF CHEFOO, CHINA. By <i>Tsen-Hwang Shaw</i> .....	542
THE MENACE OF OIL POLLUTION. By <i>Frederick C. Lincoln</i> .....	546

#### GENERAL NOTES.

Glaucous Gull in Wisconsin, 551; Play Instinct in Gulls, 551; Sooty Shearwater at Daytona Beach, Florida, 552; Notes on Geese at Painesville, Ohio, 552; European Widgeon on Wolf Lake, Chicago, 552; Baldpates and Turnstones at Jackson, Mich., 552; Ducks in the Valley of Virginia, 553; Diving Habits in the Genus *Nyroca*, 554; Spoonbills at Marco, Fla., 554; Roseate Spoonbill taken in Southern Alabama, 555; Yellow-crowned Night Heron in Lancaster Co., Pa., 555; Little Blue Heron Breeding in Delaware, 555; The Little Blue Heron in the North Carolina Mountains, 556; Little Blue Herons in Barry County, Michigan, 556; American Egret at Bellevue, Michigan, 557; Snowy Egret at Cape May, N. J., 557; The Snowy Egret near Washington, D. C., 558; Snowy Egret and Other Birds near Media, Pa., 558; Egrets and Little Blue Herons in Wisconsin, 559; The Sarus Crane of Falmouth, Mass., Proper Name of the Virginia Rail, 560; A Rail Conundrum, 560; Coot Breeding in Florida, 561; Killdeer in Connecticut, 561; Willet Breeding in southern New Jersey, 561; Nesting of the Upland Plover near Lexington, Va., 562; Western Sandpiper in Massachusetts in Spring, 562; Buteo platypterus in Porto Rico, 563; Mass Occurrence of Duck Hawk in the Mountains of North Carolina, 563; Urban Burrowing Owls, 564; Great Horned Owl Breeding in the District of Columbia, 565; Breeding of Brewer's Blackbird east of its Normal Summer Range, 565; The European Goldfinch at Buffalo, N. Y., 566; Unusual Markings on Rose-breasted Grosbeak, 567; Two Unusual Nesting sites of the Carolina Junco, 568; Third Nesting of the Rocky Mountain Evening Grosbeak, in New Mexico, 568; Rocky Mountain Orange-crowned Warbler in Clayton Co., Iowa, 570; Nesting of the Cerulean Warbler, in Piedmont, Virginia, 570; A Breeding Record of the Winter Wren in the Mountains of North Carolina, 570; Intoxicated Robins, 571; Nantucket Island Notes, 572; Unusual Observations for Western Pennsylvania, 572; Notes on Water Birds of the Piedmont of Virginia, 573; Notes from Eastern North Carolina, 575; Some Recent Notes from Coastal South Carolina, 576; Some Records from the Savana River Entrance during 1929, 577; Notes on Some Birds Uncommon in Northern Illinois, 577; Some 1930 Notes from Madison, Wis., 578; The Supposed Plumage of *Diatryma*, 579; Another Audubon Copperplate Located, 580.

#### RECENT LITERATURE.

Bailey's 'Animal Life of the Yellowstone National Park,' 581; Friedmann on Birds of the Frick African Expedition, 582; Hortling's 'Handbook of Finland Birds,' 583; La Touche's 'Handbook of the Birds of Eastern China,' 583; Recent Papers by Chasen and Kloss, 583; Papers on Minnesota Birds, 584; Poole on Birds of Berks County, Pa., 584; Wilkinson's Shanghai Birds, 585; Acworth's 'This Bondage,' 585; Collinge on British Corvidae, 586; Bird Protection in Japan, 587; Kirk Swann's Monograph of the Birds of Prey, 589; Shorter Papers, 590; The Ornithological Journals, 592.

#### OBITUARIES.

Henry Wetherby Henshaw, 600; Walter Deane, 601; William Sturgis Bigelow, 602; Edwin Beaupre, 603; Henry Raymond Howland, 603; Waldo Leon Rich, 604; Harry Merrill, 605; Inez Addie Howe, 605.

## NOTES AND NEWS.

Seventh International Ornithological Congress, 607; The A. O. U. Fiftieth Anniversary Meeting, 607; The Hawk Problem, 607; Wayne Memorial Meeting, 608; The Virginia Ornithological Society, 608; Bird Reforms in Italy, 608; The Salem Meeting of the A. O. U., 608; The Auk in Public Libraries, 609; The Baldwin Bird Research Laboratory, 613.

INDEX .....	Page 615
DATES OF ISSUE .....	" 648
OFFICERS OF THE A. O. U. PAST AND PRESENT .....	" i
COUNCIL OF THE A. O. U. PAST AND PRESENT .....	" ii
CONTENTS .....	" iii
OFFICERS, MEMBERS, ETC.....	" xi

## ILLUSTRATIONS.

## PLATES.

I.	Jonathan Dwight.
II.	Newbold T. Lawrence.
III.	Nests of the Prairie Falcon.
IV.	Edwin Howe Forbush.
V.	Frederick A. Lucas.
VI-IX.	Nests and Nestlings of <i>Scopus umbretta bannermani</i> .
X.	Breeding Grounds of Botteri's Sparrow.
XI.	Nests of the Northern Tody Flycatcher.
XII.	Skin of Swan Before and After Cleansing.
XIII-XIV.	Nests of the African Green Heron.
XV-XVIII.	Itograph for Measuring Activities of Birds.
XIX-XXII.	Rabie's Paintings of Haitian Birds.
XXIII.	Nesting Ground of Killdeer.
XXIV.	Nests and Eggs of Killdeer.

## TEXT CUTS.

Diagram of Colors of Flowers Visited by Hummingbirds .....	Page 347
Map of Route of Voyage in Bering Sea and Arctic Ocean .....	" 353
Diagrams of Time of Mockingbirds Song .....	" 388
Diagrams of Time of Mockingbirds Song .....	" 394
Diagrams of Itograph Readings .....	" 474-476

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NEUMANN, PROF. OSCAR, Wilmersdorferstrasse 74, Berlin-Charlotten- burg III, Germany .....	1928
OLIVER, WALTER REGINALD BROOK, Director Dominion Museum, Wellington, N. Z.....	1923
PHILLIPS, MONTAGU AUSTIN, 57 St. George's Sq., London, S.W. 1, England .....	1919
RAMSDEN, DR. CHARLES THEODORE, Box 146, Guantanamo, Cuba (1912) 1918	
RIBEIRO, DR. ALIPIO DE MIRANDA, National Museum, Rio Janeiro, Brazil.....	1921
RINTOUL, MISS LEONORA JEFFREY, Lahill, Largo, Fifeshire, Scotland..	1919
ROBERTS, AUSTIN, Pretoria, Transvaal, South Africa .....	1920
SCHAANNING, HANS THOMAS LANGE, Stavanger Museum, Stavanger, Norway .....	1923
SCHENK, JAKOB, Secy. Roy. Hungarian Inst. Ornith., Debroi-Ut 15, Budapest II, Hungary .....	1926
SETH-SMITH, DAVID, Zoological Gardens, London, N. W. 8, England..	1920
SKOVGAARD, PETER, Skovbo, pres Viborg, Denmark .....	1926
SNOUKAERT VON SCHAUBURG, BARON RENÉ CHARLES E. G. J. VAN, Hotel les Terrasses, Territet, Switzerland.....	1920
STRESEMANN, DR. ERWIN, Zool. Museum, Universität, Invaliden- strasse 43, Berlin, N. 4, Germany.....	1922
SWYNNERTON, CHARLES FRANCIS MASSY, Poste Restante, Dar-es- Salaam, Tanganyika Ter., East Africa.....	1918
TAKA-TSUKASA, PRINCE NOBUSUKA, 1732 Kamimeguro, Meguro, Tokyo, Japan.....	1924
THEEL, DR. JOHAN HJALMAR, Appleviken, Rodluvan 7, Stockholm, Sweden .....	1884
THIENEMANN, DR. JOHANNES, Rossitten, Kurische Nehrung, Ger- many .....	1926
THOMSON, DR. ARTHUR LANDBOROUGH, 9 Addison Gardens, Ken- sington, London, W. 14, England.....	1922
TICEHURST, DR. CLAUD BUCHANAN, Saxon House, Appledore, Kent, England.....	1922
TICEHURST, NORMAN FREDERICK, 24 Pevensey Road, St. Leonards-on- Sea, England .....	1918
TURNER, MISS EMMA LOUISA, 13 Storey's Way, Cambridge, England.	1920
UCHIDA, DR. SEINOSUKE, No. 1, 7-chome, Aoyama, Kitamachi, Tokyo, Japan .....	1919

- VAN SOMEREN, DR. VICTOR GURNET LOGAN, Box 658, Nairobi, Kenya  
Colony, East Africa.....1921
- WAIT, WALTER ERNEST, Marshfield, Maitland Crescent, Colombo,  
Ceylon.....1925
- WHISTLER, HUGH, Calbec House, Battle, Sussex, England.....1921
- WHITE, CAPT. SAMUEL ALBERT, Wetunga, Fulham, South Australia..1919

## MEMBERS.

## \*Life Member.

- ALLEN, FRANCIS HENRY, 2 Park St., Boston, Mass.....(1888) 1901
- ANDERSON, DR. RUDOLPH MARTIN, Nat. Mus., Ottawa, Ont., Can.  
(1907) 1914
- ATTWATER, HENRY PHILEMON, 2120 Genesee St., Houston, Texas  
(1891) 1901
- BAILEY, VERNON, 1834 Kalorama Road, Washington, D. C. ....(1887) 1901
- BAILY, WILLIAM LLOYD, 220 E. Lancaster Road, Ardmore, Pa. (1886) 1901
- \*BALDWIN, SAMUEL PRENTISS, 11025 East Boulevard, Cleveland,  
Ohio.....(1917) 1921
- BARTSCH, DR. PAUL, U. S. Nat. Mus., Washington, D. C. ....(1896) 1902
- BECK, ROLLO HOWARD, Planada, Merced Co., Calif.....(1894) 1917
- BOND, FRANK, 3127 Newark St., N.W., Washington, D. C. ....(1887) 1901
- BOND, JAMES, 1213 Locust St., Philadelphia, Pa.....(1923) 1929
- BOULTON, WOLFRID RUDYERD, Carnegie Mus., Pittsburgh, Pa. (1915) 1929
- BOWLES, JOHN HOOPER, Berg Apts., Tacoma, Wash.....(1891) 1910
- BRISLIN, DR. WILLIAM COUGHLIN, 425 Clinton Ave., Brooklyn,  
N. Y.....(1894) 1902
- BROOKS, WINTHROP SPRAGUE, 234 Berkeley St., Boston, Mass. (1907) 1917
- BRYANT, DR. HAROLD CHILD, Div. Fish and Game, Dept. Nat. Re-  
sources, Russ Bldg., San Francisco, Calif.....(1913) 1918
- BUNKER, CHARLES DEAN, Kansas Univ. Mus., Lawrence, Kans. (1916) 1923
- BURNS, FRANKLIN LORENZO, Berwyn, Pa. ....(1891) 1901
- BUTLER, AMOS WILLIAM, 52 Downey Ave., Irvington, Indianapolis,  
Ind.....(1885) 1901
- \*CHAMBERS, WILLIE LEE, Box 123, Eagle Rock, Calif.....(1907) 1913
- CHERRIE, GEORGE KRUCK, Newfane, Vt. ....(1891-1912) (1917) 1918
- CLARK, DR. HUBERT LYMAN, Mus. Comp. Zool., Cambridge, Mass.  
(1886) 1902
- \*COOKE, MISS MAY THACHER, 2572 University Place, Washington,  
D. C.....(1915) 1926
- \*CROSBY, MAUNSELL SCHIEFFELIN, Rhinebeck, N. Y.....(1904) 1926
- DEANE, WALTER, 29 Brewster St., Cambridge, Mass.....(1897) 1901
- \*DICKEY, DONALD RYDER, Calif. Institute Technology, Psadena,  
Calif. ....(1907) 1922
- \*DIXON, JOSEPH SCATTERGOOD, Mus. Vert. Zool., Univ. Calif., Berke-  
ley, Calif. ....(1917) 1923

- EATON, PROF. ELON HOWARD, 678 Main St., Geneva, N. Y. . . . (1895) 1907  
 EIFRIG, PROF. CHARLES WILLIAM GUSTAVE, 1029 Monroe Ave., River  
 Forest, Ill. . . . . (1901) 1929  
 EVERMANN, PROF. BARTON WARREN, Calif. Acad. Sci., San Fran-  
 cisco, Calif. . . . . (1883) 1901  
 FINLEY, WILLIAM LOVELL, Jennings Lodge, Clackamas Co., Oregon  
 (1904) 1907  
 FORDYCE, GEORGE LINCOLN, 40 Lincoln Ave., Youngstown, Ohio  
 (1901) 1921  
 GABRIELSON, IRA NOEL, 515 P. O. Bldg., Portland, Oregon . . . (1912) 1920  
 GAULT, BENJAMIN TRUE, 424 S. Main St., Glen Ellyn, Ill. . . . (1885) 1903  
 GOLDMAN, EDWARD ALPHONSO, Biological Survey, Washington, D. C.  
 (1897) 1902  
 GROSS, DR. ALFRED OTTO, Bowdoin College, Brunswick, Maine (1907) 1922  
 HARPER, FRANCIS, 206 Dickinson Ave., Swarthmore, Pa. . . . . (1907) 1917  
 \*HARRIS, HARRY, 5234 Hermosa Ave., Eagle Rock, Calif. . . . . (1911) 1919  
 HENDERSON, JUNIUS, 1305 Euclid Ave., Boulder, Colo. . . . . (1903) 1929  
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 Ohio . . . . . (1913) 1919  
 HERSEY, FRANK SEYMOUR, Bay Road, Easton, Mass. . . . . (1911) 1916  
 HOFFMAN, RALPH, Director Mus. Nat. Hist., Santa Barbara, Calif.  
 Calif. . . . . (1893) 1901  
 HOLT, ERNEST GOLSAN, c/o Consul Americano, Ciudad Bolivar, Vene-  
 zuela . . . . . (1911) 1925  
 \*HOWELL, ALFRED BRAZIER, Dept. Anatomy, Johns Hopkins Medical  
 School, Baltimore, Md. . . . . (1909) 1916  
 HOWELL, ARTHUR HOLMES, 2919 South Dakota Ave., Washington,  
 D. C. . . . . (1889) 1902  
 HUBER, WHARTON, 225 St. Marks Sq., Philadelphia, Pa. . . . . (1915) 1922  
 JACOBS, JOSEPH WARREN, 404 S. Washington St., Waynesburg, Pa.  
 (1889) 1904  
 JEFFRIES, WILLIAM AUGUSTUS, 50 Congress St., Boston, Mass. (1883) 1901  
 JEWETT, STANLEY GORDON, 515 P. O. Bldg., Portland, Oregon. (1906) 1926  
 JOB, HERBERT KEIGHTLEY, P. O. Box 456, Columbia, S. C. . . . (1896) 1901  
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 (1892) 1912  
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 LIGON, JAMES STOKLEY, Carlsbad, N. Mex. . . . . (1912) 1927  
 \*LINCOLN, FREDERICK CHARLES, Biological Survey, Washington,  
 D. C. . . . . (1910) 1921  
 LLOYD, HOYES, 582 Mariposa Ave., Rockcliffe Park, Ottawa, Ont.,  
 Can. . . . . (1916) 1925  
 \*LYON, WILLIAM ISAAC, 124 Washington St., Waukegan, Ill. . . . (1921) 1925  
 MACKAY, GEORGE HENRY, 110 State St., Room 203, Boston, Mass.  
 (1890) 1901

- MAILLIARD, JOHN WARD, 230 California St., San Francisco, Calif.  
(1895) 1901
- MILLER, DR. LOYE HOLMES, Univ. Calif. at Los Angeles, Calif. (1918) 1920
- MOORE, ROBERT THOMAS, 1420 E. Mountain St., Pasadena, Calif.  
(1898) 1914
- MOUSLEY, WILLIAM HENRY, 4073 Tupper St., Westmount, Montreal,  
Que., Can. (1915) 1926
- MUNRO, JAMES ALEXANDER, Okanagan Landing, B. C., Can. (1913) 1926
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N. Y. (1916) 1924
- NICHOLS, JOHN TREADWELL, Am. Mus. Nat. Hist., New York, N. Y.  
(1901) 1910
- NORTON, ARTHUR HERBERT, Mus. Nat. Hist., 22 Elm St., Portland,  
Maine (1890) 1902
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(1891) 1902
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- PENNOCK, CHARLES JOHN, Kennett Square, Pa. (1888) 1901
- PREBLE, EDWARD ALEXANDER, Biological Survey, Washington, D. C.  
(1892) 1901
- RATHBUN, SAMUEL FREDERICK, 306 Roy vue Apts., 615 Bellevue  
Ave. N., Seattle, Wash. (1893) 1902
- \*RIVES, DR. WILLIAM CABELL, 1702 Rhode Island Ave., Washington,  
D. C. (1885) 1901
- \*ROGERS, CHARLES HENRY, East Guyot Hall, Princeton, N. J. (1904) 1921
- ROWAN, PROF. WILLIAM, Univ. Alberta, Edmonton, Alta., Can. (1920) 1927
- SAUNDERS, ARETAS ANDREWS, 48 Longview Ave., Fairfield, Conn.  
(1907) 1920
- SETON, ERNEST THOMPSON, Greenwich, Conn. (1883) 1901
- \*SHERMAN, MISS ALTHEA ROSINA, National, via McGregor, Iowa  
(1907) 1912
- \*SHIRAS, HON. GEORGE, 3D, 4530 Klinge St., Wesley Heights, Wash-  
ington, D. C. (1907) 1915
- SIMMONS, GEORGE FINLAY, 2903 Edgehill Road, Cleveland Heights,  
Ohio (1910) 1923
- SNYDER, LESTER LYNNE, Royal Ont. Mus., Toronto, Ont., Can. (1919) 1929
- SPRUNT, ALEXANDER, JR., 92 South Bay St., Charleston, S. C. (1923) 1928
- STEPHENS, FRANK, Nat. Hist. Mus., San Diego, Calif. (1883) 1901
- STEPHENS, PROF. THOMAS CALDERWOOD, Morningside College, Sioux  
City, Iowa (1909) 1920
- STODDARD, HERBERT LEE, Biological Survey, Washington, D. C.  
(1912) 1249
- STORER, DR. TRACY IRWIN, Div. Zool., Univ. Farm, Davis, Calif.  
(1916) 1922
- STREET, JOHN FLETCHER, 1120 Locust St., Philadelphia, Pa. (1908) 1928



- STRONG, DR. REUBEN MYRON, 5840 Stoney Island Ave., Hyde Park  
Sta., Chicago, Ill. .... (1889) 1903
- \*STUART, GEORGE HAY, 3D, 923 Clinton St., Philadelphia, Pa. . . (1913) 1928
- SUTTON, GEORGE MIKSCH, Pebble Hearths, Bethany, W. Va. . . . (1919) 1925
- SWENK, MYRON HARMON, 1410 N. 37th St., Lincoln, Nebr. . . . (1904) 1920
- THAYER, JOHN ELIOT, Lancaster, Mass. .... (1898) 1905
- TOWNSEND, DR. CHARLES HASKINS, Aquarium, Battery Park, New  
York, N. Y. .... (1883) 1901
- TROTTER, DR. SPENCER, Darlington & Miner Sts., West Chester, Pa.  
..... (1888) 1901
- \*TYLER, DR. WINSOR MARRETT, 112 Pinckney St., Boston, Mass.  
..... (1912) 1917
- VAN ROSSEM, ADRIAAN JOSEPH, Calif. Institute Technology, Pasadena,  
Calif. .... (1923) 1927
- VAN TYNE, DR. JOSSELYN, Mus. Univ. Mich., Ann Arbor, Mich. (1922) 1928
- WARREN, EDWARD ROYAL, 1511 Wood Ave., Colorado Springs, Colo.  
..... (1902) 1910
- WHITE, FRANCIS BEACH, St. Paul's School, Concord, N. H. . . . (1891) 1925
- WILLETT, GEORGE, Los Angeles Museum, Exposition Park, Los  
Angeles, Calif. .... (1912) 1913
- \*WILLIAMS, ROBERT WHITE, 419 N. Calhoun St., Tallahassee, Fla.  
..... (1900) 1918
- WOLCOTT, DR. ROBERT HENRY, State University, Lincoln, Nebr.  
..... (1901) 1903
- \*WOOD, DR. CASEY ALBERT, 7 W. Madison St., Chicago, Ill. . . . (1917) 1921
- WOOD, NORMAN ASA, Mus. Univ. Mich., Ann Arbor, Mich. . . . (1904) 1912
- WRIGHT, DR. ALBERT HAZEN, Upland Road, Ithaca, N. Y. . . . (1906) 1919
- WRIGHT, MRS. MABEL OSGOOD, Box 32, Fairfield, Conn. . . . (1895) 1901
- ZIMMER, JOHN TODD, Am. Mus. Nat. Hist., New York, N. Y. . . (1908) 1922

# ASSOCIATES.

## \*Life Associate.

## \*\*Honorary Life Associate.

- ABBEY, G. F., Cottonwood, Minn. .... 1924
- ABBOTT, CLINTON GILBERT, Nat. Hist. Mus., Balboa Park, San Diego,  
Calif. .... 1898
- ABBOTT, MISS HARRIET, P. O. Box 125, Fryeburg, Maine. .... 1918
- ABEGG, KLAUSS, 1736 Cedar Road, Homewood, Ill. .... 1929
- \*ACHILLES, MRS. GERTRUDE STRONG, Morgan Hill, Calif. .... 1925
- ADAMS, BENJAMIN, P. O. Box 42, Wethersfield, Conn. .... 1911
- ADAMS, DR. CHARLES EVERETT, 29 W. Broadway, Bangor, Maine . . . 1922
- ADAMS, IVERS SHEPARD, 98 Washington St., Dorchester, Mass. .... 1923
- ADAMS, WILLIAM CLARK, Div. Fisheries and Game, State House,  
Boston, Mass. .... 1920
- ADAMS, DR. ZABDIEL BOYLSTON, 43 Cottage Farm Road, Brookline,  
Mass. .... 1908

AGASSIZ, RODOLPHE LOUIS, 14 Ashburton Pl., Boston, Mass.....	1922
AHRENS, RAYMOND MILTON, 2513 Lincoln Ave., Chicago, Ill.....	1927
AHRENS, DR. THEODOR GEORGE, Waitzstrasse 24, Berlin-Charlotten- burg, Germany .....	1920
**AIKEN, CHARLES EDWARD HOWARD, 1523 N. Tejon St., Colorado Springs, Colo.....	1926
AIMAR, MISS AGATHA, 268 Calhoun St., Charleston, S. C.....	1928
ALDRICH, JOHN WARREN, 62 W. Parade Ave., Buffalo, N. Y.....	1929
*ALEXANDER, MISS ANNIE MONTAGUE, Box 248, Suisun City, Calif....	1911
ALEXANDER, MRS. MABEL DREHER, 1184 French Ave., Lakewood, Ohio.....	1929
ALFORD, CHARLES EGERTON, "HURST", Walberswick, Southwold, Suffolk, England.....	1928
ALLARD, HARRY ARDELL, 425 West Wing, Dept. Agr., Washington, D. C.....	1929
ALLEN, MRS. AMELIA SANBORN, 37 Mosswood Road, Berkeley, Calif....	1919
ALLEN, ARTHUR FRANCIS, 714 34th St., Sioux City, Iowa.....	1919
ALLEN, DEVERE, Wilton, Conn. ....	1925
ALLEN, EGBERT CHESLEY, 150 South St., Halifax, Nova Scotia., Can...	1928
ALLEN, WALTER FOX, 168 Delevan Ave., Newark, N. J.....	1925
ALLERT, OSCAR PAUL, R. D. 1, McGregor, Iowa.....	1923
ALSOP, MISS ELIZABETH BILLINGS, 229 Euclid Ave., Ridgway, Pa....	1926
AMMON, MISS ELSIE, 1265 Parkwood Drive, Cleveland, Ohio.....	1929
ANDERSON, CHARLES JOHN, 2033 Wilbraham Rd., Springfield, Mass....	1922
ANDERSON, EDWIN CONRAD, R. D. 4, Dell Rapids, S. D.....	1919
ANDERSON, WILLIAM, South Park, Merriam, Kansas.....	1925
ANDREWS, ARTHUR ALLEN, 28 Dungan St., Canandaigua, N. Y.....	1924
ANDREWS, CLEMENT WALKER, John Crerar Library, Chicago, Ill.....	1924
ANGELL, WALTER ALLEN, 33 Westminster St., Providence, R. I.....	1901
ANKENEY, MISS HELEN, Rt. 10, Xenia, Ohio.....	1920
ANTHONY, HAROLD ELMER, Am. Mus. Nat. Hist., New York, N. Y....	1911
APPLETON, HENRY LEWIS, Twin Spring Farm, Penllyn, Pa.....	1929
ARMSTRONG, EDWARD ELTON, 2249 Calumet Ave., Chicago, Ill. ....	1904
ARNOLD, BENJAMIN WENTWORTH, 465 State St., Albany, N. Y.....	1924
*ARNOLD, EDWARD WILLIAM CAMERON, Box 727, Babylon, L. I., N. Y.	1929
ARNOLD, DR. HORACE DAVID, 520 Commonwealth Ave., Boston, Mass.	1923
ARNOLD, J. H., 4002 Massachusetts St., Long Beach, Calif.....	1929
ARTHUR, EDMUND WATTS, 7438 Perrysville Ave., Ben Avon, Pitts- burgh, Pa.....	1919
ARTHUR, STANLEY CLISBY, 1309 State St., New Orleans, La.....	1916
ASPINWALL, MRS. CLARENCE AKIN, 2340 Kalorama Rd., Washington D. C.....	1916
ASTLEY, ARTHUR, Freshfield, Ambleside, England.....	1928
ATHERTON, EDWARD HERBERT, 22 Aldworth St., Jamaica Plain, 30, Mass. ....	1917



ATKINSON, DR. DANIEL ARMSTRONG, 132 Oakwood Ave., West View, Pittsburgh, Pa. ....	1924
ATWELL, GEORGE CARRINGTON, Strafford, N. H. ....	1920
AUGSPURGER, EARL FRANKLIN, R. D. 1, Pulaski, Iowa. ....	1927
AUSTIN, OLIVER LUTHER, JR., Lake States Expt. Sta., University Farm, St. Paul, Minn. ....	1925
AVERBACH, BERTRAM FREDERICK, 2173 Cummington Rd., Cleveland, Ohio ....	1924
AVERILL, CHARLES KETCHUM, 1075 Iranistan Ave., Bridgeport, Conn. ....	1919
AVERY, CARLOS, 2273 Woolworth Bldg., 233 Broadway, New York, N. Y. ....	1925
BABCOCK, DR. HAROLD LESTER, 16 Woodleigh Road, Dedham, Mass. ....	1926
BACHMAN, DR. HAROLD ALBERT, 2340 Lincoln Park West, Chicago, Ill. ....	1924
BACON, FRANCIS LLEWELLYN, 236 Winona Ave., Germantown, Pa. ....	1917
BADÉ, DR. WILLIAM FREDERIC, 2616 College Ave., Berkeley, Calif. ....	1916
BADGER, MARTIN CRAMTON, Santa Paula, Calif. ....	1929
BAERG, PROF. WILLIAM J., Exp. Sta., Univ. Ark., Fayetteville, Ark. ....	1924
*BAGG, AARON CLARK, 70 Fairfield Ave., Holyoke, Mass. ....	1916
BAILEY, ALFRED MARSHALL, Academy of Sciences, Chicago, Ill. ....	1918
BAILEY, PROF. GUY ANDREW, Geneseo, N. Y. ....	1910
BAILEY, MRS. HENRY MOORE, 2109 Nebraska St., Sioux City, Iowa. ....	1922
BAILEY, JOHN WENDELL, Univ. Richmond, Richmond, Va. ....	1925
BAILLIE, JAMES LITTLE, Royal Ontario Mus., Toronto, Ont., Can. ....	1923
BAIRD, DAVID GALBRAITH, 228 S. Third St., Philadelphia, Pa. ....	1924
BAIRD, MISS KATHARINE BRUCE, 815 Webster St., Washington, D. C. ....	1918
BAIRD, ROBERT LOGAN, 279 Oak St., Oberlin, Ohio. ....	1921
BAKER, JOHN HOPKINSON, 1165 Fifth Ave., New York, N. Y. ....	1911
BALDWIN, MRS. HARRY LEVERETT, 7136 Ridgeland Ave., Chicago, Ill. ....	1924
BALES, DR. BLENN RIFE, 149 W. Main St., Circleville, Ohio. ....	1907
BALL, MRS. BENNET FRANK, Oakville, Conn. ....	1905
BALL, EDWARD MATTHEWS, Box 144, East Falls Church, Va. ....	1918
BALL, DR. JOSEPH PRICE, 5001 Frankford Ave., Philadelphia, Pa. ....	1911
BALL, WILLIAM HOWARD, 1861 Ingleside Terrace, N. W., Washington, D. C. ....	1923
BALM, HARRY, Redwood P. O., Muskoka, Ont., Can. ....	1928
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BARCLAY, ALEXANDER CAMPBELL, JR., N. 2216 Lincoln St., Spokane, Wash. ....	1929
BARCLAY, WILLIAM, 110 Nelson St., Barre, Vt. ....	1921
BARKER, FREDERICK WILLIAM HARRISON, 114 Brunswick St., Frederic- ton, N. B., Can. ....	1927
BARLOW, HENRY HOYT, c/o H. H. Dennis, Ill. Athletic Club, Chicago, Ill. ....	1921
BARNARD, THEODORE WINTHROP, 46 Norfolk Road, Arlington, Mass. ....	1921
BARNES, CLAUDE TEANCUM, 359 Tenth Ave., Salt Lake City, Utah. ....	1908

- \*\*BARNES, RICHARD MAGOON, Lacon, Ill.**.....1889  
**BAROODY, MRS. ELIYA TANNUS, 3130 Wenonah Ave., Berwyn, Ill.**....1927  
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**BARTRAM, JOHN, Rt. 2, West Chester, Pa.**.....1924  
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**BATTEN, GEORGE, 15 University Place, Princeton, N. J.**.....1914  
**BAYLEY, IVAN ARKLEY, North Sydney, Nova Scotia, Can.**.....1927  
**BAYNARD, OSCAR EDWARD, P. O. Box 104, Plant City, Fla.**.....1924  
**BEACH, DR. CHARLES COFFING, 54 Woodland St., Hartford, Conn.**....1922  
**BEADEL, HENRY LUDLOW, Route A, Tallahassee, Fla.**.....1926  
**BEAL, CLARENCE MARVIN, 184 Stowe St., Jamestown, N. Y.**.....1929  
**BEALE, MRS. ALFRED TENNYSON, 5833 85th St., Elmhurst, L. I., N. Y.**..1928  
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**BECK, HERBERT HUEBENER, Lititz, Lancaster County, Pa.**.....1921  
**BECK, JOSEPH NICHOLAS, Remsen, Iowa**.....1923  
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**\*BEDELL, MRS. LAUREL MAY, 1620 Mass. Ave., N.W., Washington, D. C.**.....1929  
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**BENDER, RICHARD OLIVER, 512 Thayer St., Ridley Park, Pa.**.....1927  
**BENNETT, GEORGE BARTLESON, 278 S. 23rd St., Philadelphia, Pa.**....1927  
**BENNETT, HENRY STANLEY, 111 Forest St., Oberlin, Ohio**.....1929  
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**BENSON, FRANK WESTON, 14 Chestnut St., Salem, Mass.**.....1920  
**BENSON, MRS. GEORGE FREDERICK, Owen, Wis.**.....1926  
**BENSON, SETH BERTRAM, Mus. Vert. Zool., Univ. California, Berkeley, Calif.**.....1928  
**BERNEY, F. L., "Barcarolle," Longreach, Queensland, Australia**....1929  
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**BEZEMER, KAREL WILLEM LEONARD, Buitenzorg, Java, Dutch East Indies**.....1928  
**BIBBEE, PAUL CECIL, Concordia State Normal School, Athens, W. Va.**..1927

BICKNELL, MRS. FREDERICK THOMPSON, 319 S. Normandie Ave., Los Angeles, Calif.....	1913
*BICKNELL, GEORGE A., Farmers' Loan & Trust Co., 22 William St., New York, N. Y.....	1926
BIDDLE, MISS EMILY WILLIAMS, 1828 Delancey Place, Philadelphia, Pa. ....	1898
BIDDLE, MRS. JOHN F., 3304 Perrysville Ave., N. S., Pittsburgh, Pa....	1929
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BIGELOW, HOMER LANE, 37 Old Orchard Road, Chestnut Hill, Mass....	1902
BIGELOW, DR. LYMAN FISHER, 80 Winter St., Norwood, Mass.....	1914
BIRD, DR. RALPH DURHAM, Univ. Oklahoma, Norman, Okla.....	1927
BISCHOFF, MRS. MARGUERITE JOHNSTONE, Box 236, Summerville, S.C.	1929
BISHOP, RICHARD EVETT, Springbank Lane, Mt. Airy P. O., Philadelphia, Pa. ....	1929
BISHOP, SHERMAN CHAUNCEY, Dept. Biology, Univ. Rochester, Rochester, N. Y.....	1919
BLACK, JOHN DAVID, Winslow, Ark.....	1926
BLACKWELDER, ELIOT, Box N, Stanford University, Calif.....	1895
BLAIN, DR. ALEXANDER WILLIS, 2201 Jefferson Ave. East, Detroit, Mich. ....	1929
BLAIR, MISS HELEN MARIE, 254 Melwood St., Oakland, Pittsburgh, Pa. ....	1924
BLAKE, MRS. EDWIN TYLER, Arlington Ave. & Rincon Rd., Berkeley, Calif. ....	1927
BLAKE, DR. SIDNEY FAY, Bur. Plant Industry, Dept. Agr., Washington, D. C.....	1923
BLANCHARD, FRANK NELSON, Dept. Zool., Univ. Mich., Ann Arbor, Mich. ....	1924
BLICKENSERFER, CLARK, 866 Grant St., Denver, Colo.....	1929
BLINCOE, BENEDICT JOSEPH, Rt. 13, Dayton, Ohio.....	1921
BLOOMFIELD, MRS. CHARLES C., 729 W. Main St., Jackson, Mich....	1901
BLIJDENSTEIN, LOUIS, Parkstation, Waynesboro, Va.....	1929
BOARDMAN, MISS ELIZA DENNIE, 416 Marlborough St., Boston, Mass..	1906
BODINE, MRS. DONALDSON, 4 Mills Place, Crawfordsville, Ind.....	1916
BODINE, MISS MARGARET LAMB, 19th & Walnut Sts., Philadelphia, Pa. ....	1927
BOEHNER, REGINALD STEPHEN, Syracuse Univ., Syracuse, N. Y.....	1919
BOESEL, MARION WATERMAN, Dept. Zool., Miami Univ., Oxford, Ohio	1922
BOGARDUS, MISS CHARLOTTE, Round Lake, Saratoga Co., N. Y.....	1909
BOGGS, MISS MARION ALEXANDER, Rt. 3, Waynesville, N. C.....	1924
BOLT, BENJAMIN FRANKLIN, 225 E. 46th St., Kansas City, Mo.....	1909
*BONFILS, FREDERICK GILMER, 1500 E. 10th Ave., Denver, Colo.....	1918
BOOK, MISS LOIS ADELAIDE, 733 Franklin St., Columbus, Ind.....	1928
BOOTH, EDWARD JAMES, 2805 Elm St., Bellingham, Wash.....	1928
BORELL, ADREY EDWIN, 753 56th St., Oakland, Calif.....	1927

BOSSON, CAMPBELL, 560 Concord Ave., Belmont, Mass.....	1906
BOULDU, PETER, Bemidji, Minn.....	1927
BOWDISH, BEECHER SCOVILLE, Demarest, N. J.....	1891
BOWDISH, MRS. BEECHER SCOVILLE, Demarest, N. J.....	1902
BOWEN, MISS ALICE MABEL, 437 Central St., Springfield, Mass.....	1929
BOWEN, WILFRID WEDGWOOD, Academy Nat. Sci., Philadelphia, Pa..	1926
BOWLES, MRS. HENRY LELAND, 41 Ridgewood Place, Springfield, Mass.	1924
BOWMAN, DR. JOHN GALBERT, 155 N. Dithridge St., Pittsburgh, Pa..	1925
BOYCE, JAMES GARFIELD, Box 772, Texarkana, Texas .....	1923
BOYD, MRS. HARRIET TRACY, 17 Marsh St., Dedham, Mass.....	1917
BOYD, HENRY RAMÓN, 133 Shepard Ave., Newark, N. J.....	1925
BOYLE, ASHBY DOUGLAS, 1001 E. South Temple St., Salt Lake City, Utah.....	1921
BRACKEN, MRS. HENRY MARTYN, 999 College Ave., Claremont, Calif.	1897
BRADSHAW, FRED, Director Provincial Mus. Normal School, Regina, Sask., Can.....	1921
*BRALY, JOHN CLAUDE, 501 Burnside St., Portland, Oregon.....	1926
BRAND, ALBERT RICH, 47 Park Ave., White Plains, N. Y.....	1929
*BRANDRETH, COURTENAY, Ossining, N. Y.....	1905
*BRANDRETH, FRANKLIN, Ossining, N. Y.....	1886
BRANDT, HERBERT WILLIAM, 14507 Shaker Blvd., Shaker Heights, Cleveland, Ohio.....	1915
BRANNON, PETER ALEXANDER, Box 358, Montgomery, Ala.....	1919
BRECKENRIDGE, WALTER JOHN, Zool. Mus., Univ. Minn., Minneapolis, Minn. ....	1926
BREDER, CHARLES MARCUS, JR., Aquarium, Battery Park, New York, N. Y.....	1919
BREMER, BERNHARD CHARLES, 516 Battery St., San Francisco, Calif..	1929
BRETSCH, CLARENCE, 690 Broadway, Gary, Ind.....	1924
BRIDGE, EDMUND, 52 Wyman St., West Medford, Mass.....	1910
BRIDGHAM, SAMUEL WILLARD, JR., 18 Brown St., Providence, R. I....	1928
BRIGGS, MRS. EDSON WORCESTER, 7760 16th St., N.W., Washington, D. C.....	1928
BRIGHT, STANLEY, R. D. 2, Reading, Pa.....	1921
BRIMLEY, HERBERT HUTCHINSON, State Museum, Raleigh, N. C.....	1904
BRISTOL, MISS FRANCES LOUISA, 169 Columbia Heights, Brooklyn, N. Y.....	1921
BROCKWAY, ARTHUR WILLIAM, Hadlyme, Conn.....	1912
BRODE, DR. HOWARD STIDHAM, 433 E. Alder St., Walla Walla, Wash..	1923
BRODKORB, WILLIAM PIERCE, 711 Judson Ave., Evanston, Ill.....	1925
BROLEY, CHARLES LAVALLE, Mgr. Bank of Montreal, Corydon Ave., Winnipeg, Man., Can.....	1926
BRONSON, BARNARD SAWYER, 46 Lenox Ave., Albany, N. Y.....	1920
BROOKS, CHESTER KINGSLEY, 10600 Quincy Ave., Cleveland, Ohio....	1924
BROOKS, DR. EARL, Noblesville, Ind.....	1924

BROOKS, REV. EARLE AMOS, 166 Plymouth Road, Newton Highlands, Mass. ....	1892
BROOKS, GORHAM, 60 State St., Boston, Mass. ....	1919
BROOMHALL, WILLARD HARLAN, Stockport, Ohio. ....	1929
BROUN, MORRIS, Box 311, Lenox, Mass. ....	1922
BROWN, MISS BERTHA LOUISE, 53 Court St., Bangor, Maine. ....	1918
BROWN, CLARENCE EMERSON, Zool. Society, 34th St. and Girard Ave., Philadelphia, Pa. ....	1929
BROWN, EDMUND PIERCE, 48 Union St., Belfast, Maine. ....	1920
BROWN, EDWARD JOHNSON, 3340 Cornelia Drive, Cocanut Grove, Miami, Fla. ....	1891
BROWN, HARRY APPLETON, 40 Talbot St., Lowell, Mass. ....	1912
BROWN, HOWARD FLETCHER, 405 Avondale Ave., Houston, Texas. . .	1928
BROWN, HUBERT H., 42 Pacific Ave., Toronto 9, Ont., Can. ....	1924
BROWN, WILLIAM JAMES, 250 Oliver Ave., Westmount, Que., Can. . .	1908
BROWN, WILLIAM LEWIS, U. S. Nat. Mus., Washington, D. C. ....	1927
BROWN, WILMOT WOOD, c/o H. E. Fletcher, Hereford, Ariz. ....	1929
BROWNING, WILLIAM HALL, 260 4th Ave., New York, N. Y. ....	1911
BROWNLIE, DR. IRA C., 2040 Clermont St., Denver, Colo. ....	1927
BRUEN, FRANK, Apt. A4, The Upsonia, Bristol, Conn. ....	1908
BRUESTLE, BERTRAM GEORGE, c/o Supt., 424 E. 57th St., New York, N. Y. ....	1929
BRUMBAUGH, CHALMERS SHERFEY, 2606 Elsinor Ave., Baltimore, Md. .	1916
BRUNER, STEPHEN COLE, Estacion Agronomica, Santiago de las Vegas, Habana, Cuba. ....	1926
*BRUUN, CHARLES ANAULTUS, 1510 Central Ave., Hot Springs, Ark. .	1919
BRYAN, MRS. ALFRED HENRY, P. O. Box 414, Balboa Heights, Canal Zone. ....	1927
BRYANT, LINCOLN, JR., 149 Randolph Ave., Milton, Mass. ....	1927
BRYANT, WILLIAM LETCHWORTH, Park Museum, Providence, R. I. . .	1926
BRYENS, OSCAR MCKINLEY, McMillan, Luce Co., Mich. ....	1924
BUCKLE, JOHN WILLIAM, c/o Thomas Robertson & Co., P. O. Box 2460, Montreal, Can. ....	1928
BULL, CHARLES LIVINGSTON, Oradell, N. J. ....	1920
BULLOCK, DILLMAN SAMUEL, Casilla 71, Angol, Chile. ....	1920
BUNDICK, MISS HARRIET ELLEN, 1465 Columbia Road, N.W., Washington, D. C. ....	1924
BURBANK, MRS. GEORGE EVERETT, Sandwich, Mass. ....	1922
BURGE, EDWARD SEYMOUR, 924 Forest Ave., Wilmette, Ill. ....	1927
BURGESS, DR. HENRY CLINTON, Brigham Hall, Canandaigua, N. Y. . .	1920
BURGESS, JOHN KINGSBURY, West St., Dedham, Mass. ....	1898
BURGESS, THORNTON WALDO, 61 Washington Road, Springfield, Mass. .	1919
BURLEIGH, THOMAS DEARBORN, 612 City Hall, Asheville, N. C. ....	1913
BURNELL, MISS ELIZABETH FRAYER, 1029 N. Stanley Ave., Los Angeles, Calif. ....	1923
BURNETT, WILLIAM LEWIS, Agric. College, Fort Collins, Colo. ....	1895



BURNHAM, STEWART HENRY, Dept. Botany, Cornell Univ., Ithaca, N. Y.....	1919
BURT, WILLIAM HENRY, Mus. Vert. Zool., Berkeley, Calif.....	1925
BURTCH, VERDI, Branchport, N. Y.....	1903
BURTON, EDWARD MILBY, 18 Atlantic St., Charleston, S. C.....	1929
BUSHBY, FRED WHEELER, 17 Washington St., Peabody, Mass.....	1922
BUTCHER, HOWARD, JR., Stanfair & Wistar Roads, Ardmore, Pa. ....	1921
BUTLER, ARTHUR LENNOX, St. Leonard's Park, Horsham, Sussex, England .....	1928
BUTTS, WILBUR KINGSLEY, 1060 W. Decatur St., Decatur, Ill.....	1927
BYRD, DR. HIRAM, 908 31st Ave., Tampa, Fla.....	1925
BYRD, WALLACE, 35 West Bethune St., Detroit, Mich. ....	1925
CADWALADER, CHARLES M. BIDDLE, Fort Washington, Pa. ....	1924
CAHN, DR. ALVIN ROBERT, 164 N. LaSalle St., Chicago, Ill.....	1917
CAIRNS, DR. ALEXANDER, 746 Ridge St., Newark, N. J. ....	1928
CAIRNS, JOHN MAC KAY, 2403 N. Washington Ave., Scranton, Pa. ....	1926
CALDER, JAMES ALEXANDER, Rt. 1, Buena Park, Orange Co., Calif. ...	1926
CALHOUN, MISS EMMA MAY, 39 Auburn St., Brookline, Mass.....	1921
CALLAWAY, MISS MARTHA BRYANT, 5120 Grand Ave., Kansas City, Mo.....	1929
CALLENDER, JAMES PHILLIPS, 32 Broadway, New York, N. Y.....	1903
CALVERT, EARL WELLINGTON, Cavourville, Durham Co., Ont., Can... 1919	
CAMERON, LINDSAY DUNCAN, Hilly St., Mortlake, N. S. W., Australia..	1929
CAMP, CARA LOUIS, 635 N. Irving Ave., Scranton, Pa.....	1926
CAMPBELL, DR. JAMES ARCHIBALD, 13 Elm St., Toronto, Ont., Can... 1927	
CAMPBELL, LOUIS WALTER, 304 Fearing Blvd., Toledo, Ohio.....	1929
CANNON, GABRIEL, Spartanburg, S. C.....	1920
CANTWELL, GEORGE GORDON, Mus. Hist., Art. & Sci., Exposition Park, Los Angeles, Calif. ....	1929
CAPEN, MISS ETHEL ADELE, 477 S. Hudson Ave., Pasadena, Calif....	1924
CAREY, HENRY REGINALD, 3115 Queen Lane, Germantown, Philadelphia, Pa. ....	1925
CARLISLE, GEORGE LISTER, JR., 550 Park Ave., New York, N. Y.....	1920
CARPENTER, REV. CHARLES KNAPP, 10920 S. Boyne Ave., Chicago, Ill. ....	1894
CARPENTER, GEORGE I., 746 Lincoln Place, Brooklyn, N. Y.....	1907
CARRIGER, HENRY WARD, 5185 Trask St., Oakland, Calif.....	1913
CARROLL, JAMES JUDSON, P. O. Box 356, Houston, Texas.....	1926
CARTER, JOHN DARLINGTON, Lansdowne, Pa.....	1907
CARTER, LOWELL EDWIN, R. D. 2, Russiaville, Ind.....	1928
CARTER, THOMAS DONALD, Am. Mus. Nat. Hist., New York, N. Y....	1921
CARTH, MRS. JEAN ELIZABETH, Morse Pond Grove, Wellesley, Mass. .	1922
CARTWRIGHT, BERTRAM WILLIAM, 213 Phoenix Block, Winnipeg, Man., Can.....	1924
CARTWRIGHT, WILLIAM JAMES, Williamstown, Mass. ....	1920
CASE, MRS. FRANKLIN EVERETT, 1717 Market Ave., N. Canton, Ohio.	1927

- \*\*CHAMBERLAIN, CHAUNCY WARD, Hotel Hemenway, Boston, Mass... 1885  
 CHAMBERLAIN, EDWARD BURNHAM, 182 Ashley Ave., Charleston, S. C. . 1923  
 CHAMBERLAIN, GLEN DAVID, Fort Fairfield, Maine. . . . . 1929  
 CHANDLER, WILLARD PORTER, JR., 426 S. Linden Ave., Pittsburgh, Pa. 1924  
 \*CHAPIN, MISS ANGIE CLARA, Waban Hotel, Wellesley, Mass. . . . . 1896  
 CHAPIN, MRS. GILBERT WARREN, 350 Farmington Ave., Hartford, Conn. . . . . 1926  
 CHAPMAN, CLARENCE EDWARD, Oakland, N. J. . . . . 1924  
 CHAPMAN, MRS. FRANK MICHLER, 1158 Fifth Ave., New York, N. Y. . 1908  
 CHASE, SIDNEY, P. O. Box 162, Nantucket, Mass. . . . . 1904  
 CHEESMAN, WILLIAM HANNOLD, Biological Survey, Washington, D. C. 1920  
 CHENEY, REV. ROBERT FRANCIS, St. Mark's Rectory, Southborough, Mass. . . . . 1922  
 CHRISTOFFERSON, DR. KARL, Munuskong State Park, R. F. D. 1, Pickford, Mich. . . . . 1921  
 \*CHRISTY, BAYARD HENDERSON, 403 Frederick Ave., Sewickley, Pa. . . 1922  
 CHRISTY, PROF. OTTO B., Ball State Teachers College, Muncie, Ind. . 1929  
 \*CHURCH, MISS CYNTHIA, The Point, Great Neck, L. I., N. Y. . . . . 1926  
 CLABAUGH, ERNEST DWIGHT, 18 Lenox Road, Berkeley, Calif. . . . . 1924  
 CLARK, AUSTIN HOBART, 1818 Wyoming Ave., Washington, D. C. . . . 1919  
 CLARK, CLARENCE HULL, Lubec, Maine. . . . . 1913  
 CLARK, MISS EDITH MAY, 350 Main St., Glastonbury, Conn. . . . . 1929  
 CLARK, GEORGE ROBERTS, Cynwyd, Pa. . . . . 1926  
 CLARK, MISS JESSIE LEE, Academy of Sciences, Chicago, Ill. . . . . 1927  
 CLARKE, CHARLES EVERETT, 51 Summit Road, Medford, Mass. . . . . 1907  
 CLARKE, MRS. NED, 105 E. Chicago St., Cold Water, Mich. . . . . 1925  
 CLATTENBURG, ALBERT EDWIN, JR., Vice Consul, Amer. Consulate General, Athens, Greece. . . . . 1929  
 CLAUSEN, ROBERT THEODORE, 139 Brook Ave., Passaic, N. J. . . . . 1928  
 \*CLEAVES, HOWARD HENDERSON, St. George Gardens C7 Unit 4, Staten Id., N. Y. . . . . 1907  
 CLEEVE, WILLIAM KINGDON, School of Arts, Bolsover St., Rockhampton, Queensland, Australia. . . . . 1929  
 CLENDINNEN, DR. L. J., 105 Collins St., Melbourne, Australia. . . . . 1929  
 CLINGMAN, GEORGE FRANKLIN, 7210 Euclid Ave., Chicago, Ill. . . . . 1924  
 CLOW, MISS MARION, P. O. Box 163, Lake Forest, Ill. . . . . 1929  
 COBB, DR. STANLEY, 334 Adams St., Milton, Mass. . . . . 1909  
 COCHRAN, MISS DORIS MABEL, U. S. Nat. Museum, Washington, D. C. 1927  
 COE, JOHN EDWIN, 4015 N. Ashland Ave., Chicago, Ill. . . . . 1929  
 COFFEL, HAL HERBERT, Pennville, Jay Co., Ind. . . . . 1927  
 COFFEY, BEN BARRY, JR., 1434 Bank of Commerce Bldg., Memphis, Tenn. . . . . 1929  
 COFFIN, MRS. FRANCIS HOPKINSON, 1528 Jefferson Ave., Scranton, Pa. . . . . 1921  
 COFFIN, MRS. PERCIVAL BROOKS, 5708 Kenwood Ave., Chicago, Ill. . . 1905  
 COGGINS, HERBERT LEONARD, 2929 Piedmont Ave., Berkeley, Calif. . . 1913

COHN, MARC, 29 Hope St., Bendigo, Victoria, Australia.....	1929
COLBURN, ALBERT ERNEST, 716 S. Flower St., Los Angeles, Calif.....	1891
COLE, DR. LEON JACOB, Dept. Genetics, Univ. Wis., Madison, Wis. ....	1908
COLEMAN, ROBERT HEMPHILL, 4 Green St., Charleston, S. C.....	1926
COLLIN, ALBERT, Viborg, Temola, Finland.....	1928
COLLINS, ALFRED MORRIS, 18 Simpson Road, Ardmore, Pa.....	1921
*COLLINS, HENRY HILL, III, 6445 Greene St., Germantown, Philadel- phia, Pa. ....	1923
COMMONS, FRANK WATKINS, 608 Chamber of Commerce, Minneapolis, Minn. ....	1922
COMMONS, MRS. FRANK WATKINS, 608 Chamber of Commerce, Min- neapolis, Minn. ....	1902
COMPTON, LAWRENCE VERLYN, Mus. Vert. Zool., Berkeley, Calif.....	1926
CONGER, ALLEN CLIFTON, Ohio Wesleyan Univ., Delaware, Ohio.....	1919
CONGREVE, MAJOR WILLIAM MAITLAND, Hafod, Trefnant, Denbigh- shire, N. Wales, Gt. Britain.....	1928
CONKEY, JOHN HOUGHTON, 108 Mount Vernon St., Boston, Mass.....	1929
*CONOVER, HENRY BOARDMAN, 6 Scott St., Chicago, Ill.....	1920
COOK, MISS FANNY ADDINE, Crystal Springs, Miss.....	1924
COOK, GRANT MACDONALD, 39 Tod Lane, Youngstown, Ohio.....	1924
COOK, WILLIAM BOLTON, Comly Ave., Port Chester, N. Y.....	1929
COOKE, GEORGE JOHNES, Lewis Lane, Ambler, Pa. ....	1925
COOKMAN, ALFRED, 909 Bradford St., Pomona, Calif.....	1920
COOLIDGE, JOHN TEMPLEMAN, JR., Green St., Readville, Mass.....	1927
COOLIDGE, OLIVER HILL, Broad Brook Road, Bedford Hills, N. Y.....	1928
COOLIDGE, PHILIP TRIPP, 31 Central St., Bangor, Maine.....	1919
COPE, FRANCIS REEVE, JR., Dimock, Pa.....	1892
COPELAND, MANTON, 88 Federal St., Brunswick, Maine.....	1900
CORDIER, DR. ALBERT HAWES, 415 Benton Blvd., Kansas City, Mo. ....	1920
CORYELL, SHERMAN, 1500 Hood Ave., Chicago, Ill. ....	1921
COTTAM, CLARENCE, Biol. Survey, Dept. Agr., Washington, D. C....	1928
COUCH, LEO KING, Capitol Bldg., Olympia, Wash.....	1922
COUES, DR. WILLIAM PEARCE, 12 Monmouth Court, Brookline, Mass.....	1920
COURSEN, BLAIR, 761 E. 69th Place, Chicago, Ill.....	1928
COURT, EDWARD JOSEPH, 1723 Newton St., N. W., Washington, D. C....	1927
COVELL, DR. HENRY HALL, 1600 East Ave., Rochester, N. Y.....	1918
COVERDALE, WILLIAM HUGH, 952 Fifth Ave., New York, N. Y.....	1928
COX, ARTHUR MALCOLM, 1135 Spruce St., Winnetka, Ill. ....	1927
COX, RODMAN DAYTON, 785 South Ave., Rochester, N. Y.....	1919
CRABBE, MRS. CHARLES, 80 Oak St., Far Rockaway, N. Y.....	1921
CRAIG, GLENN CLIFFTON, 2222 Cole St., Florence, Ala.....	1923
CRAIG, THOMAS MOORE, 217 Queens Road, Charlotte, N. C. ....	1928
CRAIG, WALLACE, P. O. Box 554, Brookline, Mass.....	1912
CRAIGMILE, MISS ESTHER ANN, 625 Ashland Ave., River Forest, Ill....	1927
CRAM, DR. ELOISE BLAINE, Zool. Div., B.A.I., Dept. Agr., Wash- ington, D. C. ....	1929



CRANDALL, BOWEN SINCLAIR, 213 Raymond St., Chevy Chase, Md. . . . .	1927
CRANDALL, LEE SAUNDERS, Zoological Park, New York, N. Y. . . . .	1909
CRANE, MISS CLARA LOOMIS, Dalton, Mass. . . . .	1904
CRANE, LESLIE, 161 Holly St., Rutland, Vt. . . . .	1922
CRIDDLE, NORMAN, Treesbank, Man., Can. . . . .	1918
CROCKER, REV. WILLIAM TUFTS, 263 Lexington Ave., New York, N. Y. . . . .	1920
CROSS, ALBERT ASHLEY, Huntington, Mass. . . . .	1918
CROWELL, MISS JOANN OLIVIA, Dennis, Mass. . . . .	1918
CROWELL, MISS SARAH BELLE, Dennis, Mass. . . . .	1924
CROWL, GEORGE HENRY, 516 N. Bever St., Wooster, Ohio. . . . .	1927
CUMMINGS, MISS EMMA GERTRUDE, 16 Kennard Road, Brookline, Mass. . . . .	1903
CUNNINGHAM, JOSIAS, JR., Fernhill, Belfast, Northern Ireland. . . . .	1928
CURRIER, EDMONDE SAMUEL, 416 E. Chicago St., St. John's Sta., Portland, Oregon. . . . .	1894
CURTIS, CHARLES PELHAM, 71 Ames Bldg., Boston, Mass. . . . .	1915
CURTIS, WILLIAM WOODSIDE, 93 Saint Paul St., Brookline, Mass. . . . .	1924
CUTLER, MRS. FREDERICK MORSE, 103 Butterfield Terrace, Amherst, Mass. . . . .	1923
CUTLER, DR. IRA EUGENE, 2122 S. Clayton St., Denver, Colo. . . . .	1926
CUTTER, MISS LUCIA BELLE, Jaffrey, N. H. . . . .	1920
CUYLER, WILLIAM KENNETH, 1216 W. 22nd St., Austin, Texas. . . . .	1923
DALEY, MRS. EDWIN WOOD, Olivera, Ulster Co., N. Y. . . . .	1925
DALEY, MISS MARY WOOD, Darling P. O., Delaware Co., Pa. . . . .	1920
DALLAS, GEORGE MIFFLIN, 22 W. Evergreen Ave., Chestnut Hill, Phil- adelphia, Pa. . . . .	1929
DANE, MRS. ERNEST BLANEY, Chestnut Hill, Mass. . . . .	1912
DANFORTH, STUART TAYLOR, College of Agriculture, Mayaguez, P. R. . . . .	1916
DANIELSON, KARL AUGUSTUS, Litchfield, Minn. . . . .	1928
DARCUS, SOLOMON JOHN, Penticton, B. C., Canada. . . . .	1928
DARLINGTON, PHILIP JACKSON, JR., 41 Walker St., Cambridge, Mass. . . . .	1923
DARROW, ROBERT WESLEY, 214 Thurston Ave., Ithaca, N. Y. . . . .	1928
DAVENPORT, MRS. ELIZABETH BRAXTON, 46 Western Ave., Brattle- boro, Vt. . . . .	1898
DAVIDSON, DR. ANDREW McCONNELL, 856 Palmerston Ave., Winni- peg, Man., Can. . . . .	1922
DAVIDSON, MRS. GAYLORD, 4735 Dupont Ave., S., Minneapolis, Minn. . . . .	1912
DAVIDSON, MRS. MARY ELLA, 717 Lincoln Ave., Palo Alto, Calif. . . . .	1920
DAVIDSON, WILLIAM MARK, R. F. D. 1, Silver Spring, Md. . . . .	1927
DAVIS, MISS BERTHA EUNICE, 69 Cypress St., Brookline 46, Mass. . . . .	1920
DAVIS, DORLAND JONES, 721 Elmwood Ave., Wilmette, Ill. . . . .	1928
DAVIS, MISS EDDIE LEE, 1317 North Main St., Anderson, S. C. . . . .	1928
DAVIS, HENRY WASSON, Seaside Hotel, Ventnor, Atlantic City, N. J. . . . .	1922
DAVIS, JOHN M., 227 Clark St., Eureka, Calif. . . . .	1920
DAVIS, REUBEN NELSON, Everhart Museum, Scranton, Pa. . . . .	1920
DAVIS, TONY, 425 North Allen St., Marshall, Mo. . . . .	1927

DAY, CHESTER SESSIONS, 16 Browne St., Brookline 47, Mass. ....	1897
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DEAR, MAJOR LIONEL SEXTUS, P. O. Box 89, Port Arthur, Ont., Can. ....	1928
DEARBORN, SAMUEL STEPHEN, 43 Linnaean St., Cambridge, Mass. ....	1919
DEBES, VICTOR ALBERT, 1209 Folsom Ave., Moores, Pa. ....	1929
DECK, RAYMOND STRICKLER, Kew Gardens Terrace Apts., Kew Gardens, N. Y. ....	1927
DEFREMERY, DR. HERMAN, Box 1202, Oakland, Calif. ....	1927
DEGARIS, DR. CHARLES FRANCIS, Johns Hopkins Univ., Baltimore, Md. ....	1923
DEIGNAN, HERBERT GIRTON, Chiangmai, Siam. ....	1925
DELANG, THEODORE GEORGE, 1501 Forest Ave., Wilmette, Ill. ....	1929
DELOACH, ROBERT JOHN HENDERSON, 5541 Dorchester St., Chicago, Ill. ....	1910
DELURY, DR. RALPH EMERSON, Dominion Observatory, Ottawa, Can. ....	1920
DEMILLE, JOHN BLAKENEY, 982 Cote des Neiges Rd., Montreal, Can. ....	1922
DENLEY, CHARLES FREDERICK, Rockville, Md. ....	1927
DENMEAD, TALBOTT, Biological Survey, Washington, D. C. ....	1923
DENNY, MISS MARTHA, 111 High St., Brookline, Mass. ....	1924
DENSMORE, MISS MABEL, 910 4th St., Red Wing, Minn. ....	1910
DEPRE, CON, Holland, Michigan. ....	1928
DERBY, DR. RICHARD, Oyster Bay, L. I., N. Y. ....	1898
DESCHAUENSEE, RODOLPHE MEYER, 1213 Spruce St., Philadelphia, Pa. ....	1925
DESMOND, THOMAS CHARLES, 610 Park Ave., New York, N. Y. ....	1929
DICKENS, MISS ELIZABETH, Block Island, R. I. ....	1921
DICKINSON, WILLIAM STIRLING, 314 Pyne Hall, Princeton, N. J. ....	1928
DILLE, FREDERICK MONROE, Valentine, N. br. ....	1892
DINGLE, EDWARD VON SIEBOLD, Huger, S. C. ....	1920
DINGMAN, RUSSELL GORDON, Highland Crescent, York Mills, Ont., Can. ....	1926
DISE, MRS. MARY DAMERON, Box 51, Glen Rock, Pa. ....	1928
DIXON, ALEXANDER JAMES SEXTUS, II, c/o U. G. I. Co., Broad and Arch Sts., Philadelphia, Pa. ....	1928
DOAK, WILLIAM CONWAY, 134 W. Coulter St., Germantown, Philadelphia, Pa. ....	1927
DONOH, MURRAY THOMPSON, The Balfour, 2000 16th St., N. W., Washington, D. C. ....	1925
DOOLITTLE, EDWARD ARTHUR, Box 44, Painesville, Ohio. ....	1921
DORSEY, GEORGE ANDREW, P. O. Box 163, Emory Univ., Ga. ....	1926
DOUGAN, LEWIS MATTHEW, 940 Maple Pl., St. Louis, Mo. ....	1928
DOUGLASS, DONALD WICKMORE, 917 Ninth Ave., Grinnell, Iowa. ....	1929
DREVER, HORACE, 12 W. Mt. Airy Ave., Philadelphia, Pa. ....	1928
DUBOIS, ALEXANDER DAWES, Christmas Lake Road, Route 2, Excelsior, Minn. ....	(1905) 1918
DUBOIS, JOHN SELLERS, 221 Foulke Hall, Princeton, N. J. ....	1929
DUDLEY, MRS. SARAH HARRIS, Lyman School Branch, Berlin, Mass. ....	1924

DUER, HARRY ELDON, 519 Schofield Bldg., Cleveland, Ohio.....	1921
DuFOUR, MISS LAURA EDNA, 1524 Boyd Ave., Racine, Wis.....	1924
DuMONT, PHILIP ATKINSON, Sharp Hill Road, Wilton, Conn.....	1927
DUNBAR, MISS LULA, Rt. 1, Elkhorn, Wis.....	1918
DUNCAN, ELLIS, JR., 313 Pyne Hall, Princeton, N. J.....	1928
DUNCKER, DR. HANS, Weringeroderstrasse 22, Bremen, Germany.....	1928
DUNKLEBERGER, HARRY WARREN, P. O. Box 6, Flourtown, Montgom- ery Co., Pa.....	1923
DUNN, JOHN WARNER GRIGG, 1033 Lincoln Ave., St. Paul, Minn.....	1923
DUNNING, MRS. WARREN HALSEY, Summerville, S. C.....	1928
DURBOROW, WILLIAM JOSEPH, State Museum, Harrisburg, Pa.....	1928
*DURFEE, OWEN, 727 Madison St., Fall River, Mass.....	1887
DURFEE, MRS. OWEN, 727 Madison St., Fall River, Mass.....	1923
DYE, HAROLD GALPIN, 18 Conklin Ave., Rochester, N. Y.....	1921
DYKE, ARTHUR CURTIS, 205 Summer St., Bridgewater, Mass.....	1902
DYMOND, JOHN, JR., 1001 Maison Blanche Bldg., New Orleans, La...	1929
EANES, ROBERT HILL, 401 Park Place, Austin, Texas .....	1923
EARL, THOMAS MASON, Rt. 2, Box 94, Xenia, Ohio.....	1921
EARLE, SAMUEL LOWNDES, 1223 Niazuma Ave., Birmingham, Ala....	1928
EASTWOOD, SIDNEY KINGMAN, Elberon Apts., Bloomfield Sta., Pitts- burgh, Pa. ....	1925
EATON, MISS MARY STONE, 8 Monument St., Old Concord, Mass....	1909
EATON, SCOTT HARRISON, Box 653, Lawrenceville, Ill.....	1912
EATON, WARREN FRANCIS, c/o Wellington, Sears & Co., 66 Worth St., New York, N. Y.....	1921
EDDY, J. H., 2834 Argyle Road, Birmingham, Ala.....	1927
EDMINSTER, FRANK CUSTER, JR., 427 N. Tioga St., Ithaca, N. Y.....	1929
*EDSON, JOHN MILTON, Marietta Road, Bellingham, Wash.....	1886
EDSON, WILLIAM LLOYD GARRISON, 54 Fairview Ave., Rochester, N. Y.	1916
EDWARDS, DAVID KEMP, Lansdowne Road, Rockcliffe, Ottawa, Can..	1926
EDWARDS, JAMES LELAND, 27 Stanford Place, Montclair, N. J.....	1928
EGGLESTON, JULIUS WOOSTER, 20 Copperas Hill, Cuttingsville, Vt. ...	1929
EHEIM, JOSEPH MATHIOUS, 236 Adams St., S., Hutchinson, Minn....	1927
EHINGER, DR. CLYDE ERNST, 730 Grand Ave., Keokuk, Iowa.....	1904
EIGHMEY, MANLEY GATES, Box 141, Costa Mesa, Orange Co., Calif...	1929
EKBLAW, WALTER ELMER, Clark University, Worcester, Mass.....	1910
*ELDREDGE, EVERETT, Chatham, Cape Cod, Mass.....	1928
ELLIOTT, MRS. JANE SHIELDS, 2900 Q St. N.W., Washington, D. C....	1921
ELLIS, CHARLES WILLIAM HENRY, 1939 Biltmore St. N.W., Washing- ton, D. C.....	1927
*ELLIS, RALPH, JR., 2420 Ridge Road, Berkeley, Calif.....	1924
ELMORE, LOUIS ALBERT, 511 West Clay St., Ukiah, Calif.....	1929
ELROD, MRS. WALTER DEWITT, Box 103, Okmulgee, Okla.....	1924
*EMERSON, WILLIAM OTTO, Route 1, Box 39, Hayward, Calif.....	1916
EMERY, FRANK HARDIE, c/o Sandoz Chemical Works Ltd., 119 Ade- laide St., W., Toronto 2, Ont., Can.....	1928

EMILIO, SHEPARD GILBERT, 7 Winter St., Salem, Mass.	1922
EMLEN, ARTHUR COPE, "Awbury," Germantown, Philadelphia, Pa.	1921
EMLEN, JOHN THOMPSON JR., 36 W. School Lane, Germantown, Phila., Pa.	1925
*EMMET, COL. ROBERT TEMPLE, 48 Washington Ave., Schenectady, N. Y.	1926
ENGLISH, ALMON OWEN, 105 Granby St., Norfolk, Va.	1928
ERICHSEN, WALTER JEFFERSON, 2311 Barnard St., Savannah, Ga.	1919
ERSKINE, RICHARD, Wenonah, N. J.	1926
ESTEN, SIDNEY RAYMOND, 4112 Graceland Ave., Indianapolis, Ind.	1925
EVANS, DR. EVAN MORTON, 550 Park Ave., New York, N. Y.	1916
EVANS, VICTOR JUSTICE, Victor Bldg., Washington, D. C.	1927
EVERETT, EDWARD ADDISON, 206 9th St., N. E., Waseca, Minn.	1925
EZRA, ALFRED, Foxwarren Park, Cobham, Surrey, England.	1928
FAGAN, CHARLES LOUIS, Rt. 2, Box 58, Rahway, N. J.	1922
FAIRMAN, MISS MARIAN, 4744 Kenwood Ave., Chicago, Ill.	1920
FARGO, WILLIAM GILBERT, 506 Union St., Jackson, Mich.	1923
FARLEY, FRANK LEGRANGE, Camrose, Alberta, Can.	1920
FARLEY, JOHN MOYER, JR., Avondale Rd., Gedney Farm Gardens, White Plains, N. Y.	1922
FAY, SAMUEL PRESCOTT, 2 Otis Place, Boston, Mass.	1907
*FEARING, GEORGE RICHMOND, 168 Beacon St., Boston, Mass.	1924
FELGER, ALVA HOWARD, North High School, Denver, Colo.	1898
FELL, MISS EMMA TREGO, Holicong, Bucks Co., Pa.	1903
FERGUSON, B. W., 715 Hays St., San Antonio, Texas.	1929
FERGUSON, HENRY LEE, 250 Park Ave., New York, N. Y.	1920
*FERGUSON, HOMER LENOIR, Newport News Ship Bldg., Newport News, Va.	1926
FERGUSON, MISS K., "Glenfergus", Cooma, N. S. W., Australia.	1929
FERGUSON, DR. LEE H., 2969 Manchester Road, Shaker Heights, Cleveland, O.	1929
FERRIER, MISS JUDITH MADELINE, Hemsby Hall, Hemsby, Norfolk, England	1928
FESER, MRS. ESTELLA COSSAART, 6632 Yale Ave., Chicago, Ill.	1925
FESMIRE, A. R., c/o C. and M. Alliance, Hankow, China.	1927
FIELD, MISS CAROLINE LOUISE, 3 Hampton Court, 1461 Mountain St., Montreal, Can.	1928
FIELD, MRS. MARSHALL, 4 East 70th St., New York, N. Y.	1926
FIELD, WILLIAM LUSK WEBSTER, Milton Acad., Milton, Mass.	1920
FINFROCK, CHARLES MILLARD, 3186 Oak Road, Cleveland Heights, Ohio	1925
FISHER, MISS ELIZABETH WILSON, 2222 Spruce St., Philadelphia, Pa.	1896
FISHER, DR. GEORGE CLYDE, American Mus. Nat. Hist., New York, N. Y.	1908
FISHER, PROF. RICHARD THORNTON, Petersham, Mass.	1924
FITZPATRICK, ARCHIE LEVERETTE, 2408 Colonial Ave., Waco, Texas	1927

FLEMING, JAMES MACARTHUR, Drumwalt, The Long Road, Cambridge, England .....	1928
FLETCHER, MISS JANE ADA, Lyelton, Eaglehawk Neck, Tasmania ....	1929
FLETCHER, LAWRENCE BROWN, 54 Cotswold Road, Brookline, Mass....	1921
FLETCHER, MRS. MARY ELIZABETH, Proctorsville, Vt. ....	1898
FLIERINGA, DR. HENRY JOHAN, Eendrachtsweg 52, Rotterdam, Holland .....	1929
FLORES, ISMAEL, 16 Basora St., Mayaguez, Porto Rico .....	1928
FLOYD, CHARLES BENTON, 454 Wolcott St., Auburndale, Mass. ....	1916
FLOYD, JOSEPH LARKE, 1009 Geo. D. Harter Bank Bldg., Canton, Ohio	1921
FOLEY, ALLEN EDWARD, Woodenbulup, via Kulikup, Western Australia .....	1929
FOLLETT, RICHARD EDWARD, 2134 Dime Bank Bldg., Detroit, Mich....	1926
FOOT, DR. NATHAN CHANDLER, 3560 Interwood Place, Clifton, Cincinnati, Ohio .....	1916
FORBES, RALPH EMERSON, 328 Adams St., Milton, Mass. ....	1917
FORD, EDWARD RUSSELL, 1224 Isabella St., Wilmette, Ill. ....	1920
FORD, FRANCIS, 114 Allyn St., Holyoke, Mass. ....	1927
FORD, MISS LOUISE PETIGRU, "The Heights," Aiken, S. C. ....	1919
FORTNER, PROF. HARRY CADWALLADER, 102 Bidwell Ter., Rochester, N. Y. ....	1929
FOSTER, MISS CAROLINE ROSE, Mendham Road, Morristown, N. J. ....	1928
*FOSTER, FRANCIS APTHORP, Edgartown, Mass. ....	1918
*FOSTER, FRANK BRISBIN, P. O. Box 87, Haverford, Pa. ....	1916
FOSTER, DR. GEORGE SANFORD, 967 Elm St., Manchester, N. H. ....	1921
*FOSTER, JOHN HAWLEY, P. O. Box H, Haverford, Pa. ....	1927
FOWLER, FREDERICK HALL, 221 Kingsley Ave., Palo Alto, Calif. ....	1892
FOWLER, HENRY WEED, Acad. Nat. Sciences, Philadelphia, Pa. ....	1898
FOX, MISS CAROLINE A., Center Road, Hillsboro, N. H. ....	1924
FOX, MISS JENNIE ETHEL, Sparkhill, Rockland Co., N. Y. ....	1925
FRANCIS, LAWRENCE EDWARD, 300 N. 31st St., Corvallis, Oregon ....	1928
FRANCKE, MRS. LUIS JOHN, Glen Head, L. I., N. Y. ....	1924
FRANKEL, MRS. HENRY, 301 Tonawanda Drive, Des Moines, Iowa ....	1925
FRASER, DONALD, Johnstown, N. Y. ....	1902
FRAZAR, MRS. MARSTON ABBOTT, 84 Abbottsford Road, Brookline, Mass. ....	1925
FRAZIER, JOSEPH FRANKLIN, 724 Proctor Place, Independence, Mo. ....	1928
FREER, RUSKIN SKIDMORE, Lynchburg College, Lynchburg, Va. ....	1928
FRENCH, MRS. ALFRED JASON, R. F. D. 1, Box 40, Carlton, Ore. ....	1921
FRENCH, DR. CHARLES EPHRAIM, 62 Holyrood Ave., Lowell, Mass. ....	1923
FRENCH, MRS. CHARLES HENRY, 950 Washington St., Canton, Mass. ....	1908
FRENCH, DANIEL CHESTER, 12 W. 8th St., New York, N. Y. ....	1922
FRENCH, MRS. MENA VESTAL, Box 171, Wayland, Mass. ....	1923
*FREY, MRS. EDITH KRIEGER, 814 3rd St., Jackson, Mich. ....	1923
FRICKE, REINHOLD LEO, Carnegie Museum, Pittsburgh, Pa. ....	1927
FRIEDMAN, RALPH, 32 Garden Place, Brooklyn, N. Y. ....	1921



FRIEDRICH, GEORGE WALTER, 3029 Belmont Ave., Chicago, Ill.	1925
FROST, ALLEN, 9 Holmes St., Poughkeepsie, N. Y.	1919
FRY, MRS. GLADYS GORDON, 66 Eagle Rock Way, Montclair, N. J.	1925
*FUGUET, HOWARD, 560 Bullitt Bldg., Philadelphia, Pa.	1919
FUGUET, STEPHEN, Devon, Pa.	1927
FULLER, ARTHUR BENNETT, 2717 Euclid Ave., Cleveland, Ohio	1922
FULLER, MRS. EDWARD ABBOTT, Brick House, Hancock, N. H.	1922
FULLER, HENRY CORBIN, 3704 Huntington St., Washington, D. C.	1916
FUNK, MRS. ABRAHAM BENJAMIN, 649 Harwood Drive, Des Moines, Iowa	1924
GAEDE, MISS ADELE, 9918 Westchester Ave., Cleveland, Ohio	1929
GANDER, FRANK FORREST, P. O. Box 395, East San Diego, Calif.	1926
GANIER, ALBERT FRANKLIN, 2507 Ashwood Ave., Nashville, Tenn.	1917
GARDINER, CHARLES BARNES, 175 W. Main St., Norwalk, Ohio	1903
GARDNER, ASTON COLEBROOK, c/o Westminster Bank, Rowlands Road, West Worthing, Sussex, England	1919
GARDNER, CAPT. LEON LLOYD, Camp John Hay, Mountain Prov., P. I.	1924
GARDNER, MRS. WALTER HINCKLEY, Bucksport, Maine	1920
GARNETT, WILLIAM JEREMIAH, Ont. Agr. College, Guelph, Ont., Can.	1928
GARRETT, MRS. HARRY LEE, Court of Civil Appeals, Galveston, Texas	1929
GATES, FRANK WARD RISDON, 33 Zion St., Hartford, Conn.	1928
*GAUNTLETT, FREDERICK JOHN, 16 Primrose St., Chevy Chase, Md.	1925
GEDDES, JOHN MACLAY, 331 High St., Williamsport, Pa.	1924
GEIST, ROBERT MILLER, 811 Euclaire Ave., Bexley, Columbus, Ohio	1923
GIANINI, CHARLES ALFRED, Poland, N. Y.	1911
GIFFORD, PAUL COFFIN, 73 Whittier Ave., Olneyville, R. I.	1921
GIGNOUX, CLAUDE, 73 Tunnel Road, Berkeley, Calif.	1921
GILBERT, MRS. FREDERICK MILLEMON, Walpole, N. H.	1919
GILLESPIE, JOHN ARTHUR, 313 Sharp Ave., Glenolden, Pa.	1923
GILLESPIE, MRS. JOHN ARTHUR, 313 Sharp Ave., Glenolden, Pa.	1924
GILLIAM, ROBERT ALLEN, 1123 Cedar Hill Ave., Sta. A., Dallas, Tex.	1920
GILLIN, JAMES RHODS, Ambler, Pa.	1921
GILLIS, FRANK, 508 Park St., Anoka, Minn.	1922
GILMAN, MARSHALL FRENCH, Banning, Calif.	1907
GILMORE, MRS. ALBERT ESTES, 2215 E. Admiral Bldg., Tulsa, Okla.	1927
GILMORE, ALBERT FIELD, 84 Garfield St., Watertown, Mass.	1924
GLADDING, MRS. JOHN RUSSELL, Thompson, Conn.	1912
GLEASON, MRS. CLARK HOUGH, 700 Madison Ave., S. E., Grand Rapids, Mich.	1917
GLENN, DONALD, Box 9, Franklin, Pa.	1923
GLOYD, HOWARD KAY, Univ. Michigan, Ann Arbor, Mich.	1920
GODCHARLES, DR. FREDERICK ANTES, State Librarian, Harrisburg, Pa.	1928
GOELITZ, WALTER ADOLPH, 22 Nunda Boulevard, Rochester, N. Y.	1916
GOELLNER, REV. EUGENE, St. Anselm's College, Manchester, N. H.	1928
GOETZ, CHRISTIAN JOHN, 3503 Middleton Ave., Cincinnati, Ohio	1929
GOLDMAN, LUTHER JACOB, Box 615, Pocatello, Idaho	1929



GOLDSMITH, GLENN WARREN, Box 1611, University Station, Austin, Texas .....	1926
GOOD, PROF. HENRY GEORGE, Polytechnic Inst., Auburn, Ala. ....	1925
GOOD, NEWELL EMANUEL, 1811 Irving St., N. W., Washington, D. C. ....	1927
GOODHART, LEANDER McCORMICK, 1785 Mass. Ave., N. W., Washington, D. C. ....	1927
GOODRICH, MISS JULIET THEODOSIA, Land o' Lakes, Vilas County, Wis. ....	1904
GORDON, HARRY EDGAR, 307 Laburnum Crescent, Rochester, N. Y. ....	1911
GORDON, JOHN GORDON McHAFFIE, Corsemalzie, Whauphill, Wigtownshire, Scotland. ....	1928
GORDON, KENNETH LLEWELLYN, Dept. Zool., State Agric. Coll., Corvallis, Oregon. ....	1924
GORDON, ROBERT BENSON, 2218 Indianola Ave., Columbus, Ohio. ....	1923
GORDON, SETH EDWIN, 1218 Greenleaf St., Evanston, Ill. ....	1924
GORMLEY, A. LIGUORI, 79 John St., N., Arnprior, Ont., Can. ....	1918
GORST, CHARLES CRAWFORD, 28 Beauford Road, Boston 30, Mass. ....	1916
**GOULD, JOSEPH EDWARD, 1920 Springfield Ave., Campostella Heights, Norfolk, Va. ....	1889
GOWANS, MISS ETHEL, 308 S. Lincoln St., Kent, Ohio. ....	1921
GRANGER, WALTER WILLIS, Amer. Mus. Nat. Hist., New York, N. Y. ....	1891
GRANQUIST, HARRY, 1802 Pennsylvania Ave. E., Warren, Pa. ....	1928
GRANT, CLEVELAND PUTNAM, Field Museum, Chicago, Ill. ....	1924
GRANT, ERNEST ROSS, Hotel Roosevelt, Washington, D. C. ....	1927
GRANT, MARTIN LAWRENCE, 92 Morgan St., Oberlin, Ohio. ....	1926
GRANT, WILLIAM WRIGHT, 816 S. Main St., Geneva, N. Y. ....	1910
GRASETT, FRANK GODWIN, 535 Green Bay Road, Glencoe, Ill. ....	1923
GRASS, ARTHUR MERRITT, 339 B St., N. E., Linton, Ind. ....	1927
GRAVES, MRS. CHARLES BURR, 4 Mercer St., New London, Conn. ....	1905
GRAY, ALWYN EVERETT, 304 East 12th Street, Oklahoma City, Okla. ....	1923
GRAY, GEORGE W., Greenvale Farm, Poughkeepsie, N. Y. ....	1920
GREELEY, JOHN RICHARD, 241 Linden Ave., Ithaca, N. Y. ....	1925
GREEN, EDWIN LUTHER, JR., 328 Moore St., Columbia, S. C. ....	1928
GREEN, PROF. GEORGE REX, 511 South Atherton St., State College, Pa. ....	1927
*GREEN, MORRIS MILLER, 39 Wyoming Ave., Ardmore, Pa. ....	1921
GREEN, THOMAS DUNBAR, Hotel Woodward, Broadway & 55th St., New York, N. Y. ....	1929
GREENE, EARL ROSENBURY, 642 Orme Circle, Atlanta, Ga. ....	1921
GREENFIELD, RAY HERBERT, 124 Maple Ave., Takoma Park, Md. ....	1929
GREENOUGH, HENRY VOSE, 39 Worthington Road, Brookline, Mass. ....	1901
GREENWELL, GUY AYTCHIE, 900 East 7th St., Joplin, Mo. ....	1928
GREENWOOD, CHRISTOPHER, Rt. 1, Lausana, Alberta, Can. ....	1926
GREGORY, REV. CAREY ELLIS, Box 215, Morganton, N. C. ....	1922
GREGORY, STEPHEN STRONG, JR., Box N, Winnetka, Ill. ....	1906
GRESHAM, ALBERT BURTON, 568 St. John's Ave., Winnipeg, Man., Can. ....	1929
GRIMES, SAMUEL ANDREW, 3615 Mayflower St., Jacksonville, Fla. ....	1925

GRISCOM, MRS. EVERETT SAMUEL, Roslyn, Montgomery Co., Pa. ....	1929
GROMME, OWEN JUSTUS, Public Museum, Milwaukee, Wis. ....	1924
GROFF, MISS FRANCES LLOYD, West Chester, Pa. ....	1929
GRUDE, INGEBRET, Victor, Teller Co., Colo. ....	1929
GUERNSEY, RAYMOND GANO, Eden Terrace, Poughkeepsie, N. Y. ....	1928
GUNTHORP, DR. HORACE, 1227 East Lowell St., Tucson, Ariz. ....	1919
HABER, MRS. VERNON RAYMOND, 125 Buckport St., State College, Pa. ....	1929
HACHISUKA, HON. MASA UJI, 37 Portsmen Sq., London, W. I., England. ....	1927
HADELER, EDWARD WILLIAM, 336 S. State St., Painesville, Ohio. ....	1920
HADLEY, ALDEN HERVEY, Nat. Assn. Audubon Societies, 1974 Broad- way, New York, N. Y. ....	1906
HAGAR, MRS. JACK, 418 West 3rd Ave., Corsicana, Texas. ....	1929
HAGENBECK, LORENZ, Königstr. 45, Lokstedt, Hamburg, Germany. ....	1928
HAGNER, DR. FRANCIS RANDALL, 1824 19th St., N. W., Washington, D. C. ....	1926
HAHN, WILLIAM JR., 403 Durst Ave., Greenwood, S. C. ....	1925
HAILE, HENRY PENNINGTON, Hanover, N. H. ....	1919
HAINES, ROBERT LEE, 111 Pinehurst Lane, Moorestown, N. J. ....	1924
HALDEMAN, MISS DORIS WEISS, E. Mt. Airy Ave., Philadelphia, Pa. ....	1927
HALE, EZRA A., 218 Edgerton St., Rochester, N. Y. ....	1927
HALE, WILLIAM BARTON, 19 Prince St., Rochester, N. Y. ....	1928
HALES, BENJAMIN JONES, Normal School, Brandon, Man., Can. ....	1927
HALLINAN, THOMAS, 293 19th Ave., Paterson, N. J. ....	1919
HALLINEN, JOSEPH EDWARD, Rt. 1., Cooperton, Okla. ....	1919
HALLMAN, ROY CLINE, Box 847, St. Augustine, Fla. ....	1928
HALLOWELL, FRANK WALTON, 252 Summer St., Boston, Mass. ....	1927
HALVERSON, DR. HAROLD MARTIN, 312 Pearl St., Yankton, S. Dak. ....	1924
HAMILL, MRS. LAFAYETTE C., 477 Grove St., Worcester, Mass. ....	1924
HAMILTON, ARTHUR LINCOLN, 836 North Raymond Ave., Pasadena, Calif. ....	1929
HAMILTON, WILLIAM JOHN, JR., Dept. Biol., Cornell Univ., Ithaca, N. Y. ....	1924
HAMMOND, DR. ROLAND, 41 Boyleston Ave., Providence, R. I. ....	1924
HANCOCK, JOHN BUCKLEY, 527 Laurel Ave., Bridgeport, Conn. ....	1929
HAND, RALPH LEVI, U. S. Forest Service, Kooskia, Idaho. ....	1929
HANDLEY, CHARLES OVERTON, Ashland, Va. ....	1916
HANDSAKER, RALPH, Colo, Iowa. ....	1922
HANKINSON, THOMAS LEROY, 96 Oakwood Ave., Ypsilanti, Mich. ....	1897
HANNA, WILSON CREAL, 141 East F. St., Colton, Calif. ....	1919
HARDING, MRS. RICHARD BRUCE, 121 University Road, Brookline, Mass. ....	1922
HARING, MRS. INEZ MARIA, Woodland, Ulster Co., N. Y. ....	1921
HARKIN, HON. JAMES BERNARD, Commr. Canadian Nat. Parks, Otta- wa, Can. ....	1921
HARRINGTON, MRS. ALICE BOWERS, 18 Winsom St., Waltham, Mass. ....	1929
HARRINGTON, DR. PAUL, 813 Bathurst St., Toronto, Ont., Can. ....	1922

HARRIS, ARTHUR LESLIE, Ultimo House, Kangaloon Rd., Bowrall, N. S. W., Australia .....	1929
HARRIS, ROBERT DOUGLASS, 243 Linwood St., St. James, Winnipeg, Man., Can. ....	1929
*HARRIS, WILLIAM PICKETT, 15410 Windmill Point Drive, Grosse Pointe Parks, Mich. ....	1925
*HARRISON, GEORGE LEIB, JR., 1520 Locust St., Philadelphia, Pa. ....	1919
HART, CECIL, 132 N. 3rd St., Montebello, Los Angeles Co., Calif. ....	1921
HART, WILLIAM STEPHEN, Box 1185, Montreal, Que., Can. ....	1926
HARTER, SAMUEL GEORGE, 3848 3rd St., San Diego, Calif. ....	1926
HARTLEY, GEORGE INNESS, Southampton, L. I., N. Y. ....	1919
HARVEY, MISS GERTRUDE FOY, 118 W. Cooke Ave., Glenolden, Pa. ....	1929
HARVEY, JOHN LEGRAND, Mercantile Bldg., Waltham, Mass. ....	1916
HARVEY, ROGER DOUGLAS, Bellavista, Cerro de Pasco, Peru. ....	1927
HARWELL, CHARLES ALBERT, P. O. Box 457, Yosemite National Park, Calif. ....	1929
HASBROUCK, HENRY CRANE, 895 West End Ave., New York, N. Y. ....	1920
*HASKELL, MISS SADIA, 3828 30th St., Mt. Rainier, Md. ....	1916
HASTINGS, WALTER ERNEST, 310 Maple St., Howell, Mich. ....	1921
HATCH, MRS. JESSIE E., 1165 East Ocean Ave., Long Beach, Calif. ....	1929
HATHAWAY, ALTON HASTINGS, 25 Oakland St., Lexington, Mass. ....	1921
HATHAWAY, MRS. EMILY LOUISE, Spring St., Rt. 1, W. Bridgewater, Mass. ....	1920
HATHAWAY, HENRY SEDGEWICK, Norwood and Thorn Aves., South Auburn, R. I. ....	1897
HAULTAIN, CHARLES FREDERICK, Quirte Fox Ranch, Belleville, Ont., Can. ....	1923
HAUSMAN, DR. LEON AUGUSTUS, 259 Harrison Ave., New Brunswick, N. J. ....	1928
HAUTHAWAY, CLARENCE LITTLE, 346 Congress St., Boston, Mass. ....	1927
HAVEMEYER, HENRY OSBORNE, Mahwah, N. J. ....	1893
HAVEMEYER, HENRY OSBORNE, JR., Mahwah, N. J. ....	1919
HAVERSCHMIDT, FR., 50 Kromme Nieuwe Gracht, Utrecht, Holland. ....	1928
HAVEN, HERBERT MAURICE WEST, 500 Forest Ave., Portland, Maine. ....	1920
HAWEIS, STEPHEN, Nat. Zoological Park, Washington, D. C. ....	1927
HAWORTH, MISS MARY MAUD ALICE, Mosscroft, Edgeworth, Sewick- ley, Pa. ....	1925
HAYES, MRS. EDWIN AUGUSTUS, 466 Elm St., New Haven, Conn. ....	1927
HEARSEY, EDWARD, 21 Davis Ave., East Orange, N. J. ....	1927
HEBARD, DANIEL LEARNED, 2713 Fidelity Trust Bldg., Philadelphia, Pa. ....	1928
HEBARD, MISS HELEN ELIZABETH, 9200 Germantown Ave., Chestnut Hill, Philadelphia, Pa. ....	1929
HEGEMAN, MRS. CHARLES STEDMAN, 16 Wilde Place, Montclair, N. J. ....	1923
HEGNER, FRANCIS ARNOLD, 513 Hill St., Sewickley, Pa. ....	1924

HEILFURTH, FRITZ, Colegio Aleman, Calzada de la Piedad, City of Mexico, D. F., Mexico .....	1926
HEILNER, VAN CAMPEN, Spring Lake Beach, N. J. ....	1925
HELPER, MISS LOUISE, 1005 Decatur St., Watkins Glen, N. Y. ....	1929
*HELME, ARTHUR HUDSON, Miller Place, N. Y. ....	1888
HELMUTH, WILLIAM TOD, 3RD, 182 W. 58th St., New York, N. Y. ....	1923
HEMPHILL, ASHTON ERASTUS, 598 Dwight St., Holyoke, Mass. ....	1919
HEMPHILL, FREDERICK ARNOLD, 128 Broad St., Elizabeth, N. J. ....	1929
HENDERSON, ARCHIBALD DOUGLAS, Belvedere, Alberta, Can. ....	1924
HENDERSON, WALTER CLEAVELAND, 8 Magnolia Parkway, Chevy Chase, Md. ....	1917
HENSHAW, SAMUEL, 28 Fayerweather St., Cambridge, Mass. ....	1924
HERMAN, MRS. ERVINE OLNEY, Mokence, Ill. ....	1928
HERMAN, DR. WILLIAM CEPHAS, 19 West 7th St., Cincinnati, Ohio. . .	1921
*HERRICK, HAROLD, 95 Maiden Lane, New York, N. Y. ....	1905
HESS, HARLAN BERNARD, Stanford University, Calif. ....	1929
HIATT, BENJAMIN CHAPMAN, 119 E. Montgomery Ave., Ardmore, Pa. .	1925
HIBBERT, MRS. HAROLD, 17 Parkside Place, Cote de Neiges Road, Montreal, Que., Can. ....	1926
HICKS, LAWRENCE EMERSON, Botany Dept., Ohio State Univ., Columbus, Ohio .....	1929
HIGGONS, EARL T., 213 Harrogate Rd., W. Park P. O., Penn Wynne, Pa. ....	1929
*HIGHAM, WALTER ERNEST, The Oaks, Clayton-le-Dale, near Blackburn, England. ....	1928
HILDRETH, MISS ELLEN ELIZABETH, 126 Coolidge Hill, Cambridge, Mass. ....	1922
HILL, MRS. THOMAS ROBY, 4011 Baltimore Ave., Philadelphia, Pa. . .	1903
HILLMER, DAVIS BRADLEY, 453 Canfield Ave., W., Detroit, Mich. ....	1926
HINCKLEY, GEORGE LYMAN, Old Colony Trust Co., P. O. Box 363, Boston, Mass. ....	1912
HINE, ASHLEY, 8131 Euclid Ave., Chicago, Ill. ....	1922
*HINE, PROF. JAMES STEWART, Ohio State Univ., Columbus, Ohio. . .	1899
HITCHCOCK, FRANK HARRIS, Metropolitan Club, 1 East 60th St., New York, N. Y. ....	1921
HIX, GEORGE EDWARD, 337 72nd St., Brooklyn, N. Y. ....	1904
HOFFMANN, DR. BERNHARD, Uhlandstr. 16, Dresden A, Germany. ....	1929
HOFFMAN, EDWARD CARLTON, 1041 Forest Cliff Drive, Lakewood, Ohio	1928
HOFFMAN, IRVIN NEWTON, 1513 30th St., N. W., Washington, D. C. .	1924
HOFFMAN, PAUL WILLIAM, 1573 12th St., Milwaukee, Wis. ....	1924
HOLLAND, HAROLD MAY, Galesburg, Ill. ....	1910
HOLLAND, DR. WILLIAM JACOB, Carnegie Museum, Pittsburgh, Pa. . .	1899
HOLLISTER, GEORGE BUELL, 4 E. 5th St., Corning, N. Y. ....	1919
HOLLISTER, WARREN DALE, Delavan, Wis. ....	1901
HOLLOMAN, MRS. REED, Miraflores, Santa Fe, N. M. ....	1924
HOLMAN, JOHN PAULISON, Fairfield, Conn. ....	1922

HOLMAN, RALPH HOWARD, 181 Harvard St., Brookline, Mass.....	1907
HOLMES, CHARLES FREDERICK, Dollard, Sask., Can.....	1927
HOLTZINGER, HANS, Holtzingerstr. 4, Oldenburg i. O., Germany.....	1928
HOMER, FRED LEROY, 270 N. Craig St., Pittsburgh, Pa.....	1924
HONYWILL, ALBERT WILLIAM, JR., 17400 Wildemere Ave., Detroit, Mich. ....	1907
HOPKINS, GEORGE IRVING, 841 Beech St., Manchester, N. H.....	1922
HORNER, MISS HANNAH MEE, 24 Kent Rd., Stonehurst, Upper Darby, Pa.....	1929
HORSEY, RICHARD EDGAR, Highland P'k, Reservoir Ave., Rochester, N. Y.....	1919
HORSFALL, ROBERT BRUCE, c/o Nature Magazine, 1214 16th St., N. W., Washington, D. C.....	1905
HOSKINSON, PROF. CLARENCE EDWIN, Box 224, Clarinda, Iowa.....	1928
HOUGHTON, CLARENCE, 433 Clinton Ave., Albany, N. Y.....	1920
HOWARD, DR. HILDEGARDE, 973 North Normandie Ave., Hollywood, Calif. ....	1928
HOWATT, DR. GILBERT ANDREW, 1922 F. St., Eureka, Calif. ....	1924
HOWE, CLIFTON DURANT, Univ. Toronto, Toronto, Ont., Can.....	1921
HOWELL, JOSEPH, 914 Lucern Terrace, Orlando, Fla.....	1928
HOWLAND, RANDOLPH HUGHBERT, 164 Wildwood Ave., Upper Mont- clair, N. J. ....	1902
HUBBARD, MRS. FRANK DEXTER, 81 Barnett St., New Haven, Conn..	1923
HUBBARD, HUGH WELLS, American Board Missions, Paotingfu, China.	1928
HUBBARD, PROF. MARIAN ELIZABETH, Hallowell House, Wellesley 81, Mass. ....	1916
HUBER, MRS. WHARTON, 225 St. Marks Square, Philadelphia, Pa....	1926
HUDSON, GEORGE ELFORD, 1319 R. St., Lincoln, Nebr.....	1928
HUEY, LAURENCE MARKHAM, Nat. Hist. Mus., Balboa Park, San Diego, Calif.....	1920
HUFF, PROF. NED L., 1219 7th St., S. E., Minneapolis, Minn. ....	1924
HUGHES, GEORGE THOMAS, Box 153, Plainfield, N. J.....	1919
HUGHES, DR. WILLIAM ELLERY, 3945 Chestnut St., Philadelphia, Pa.	1920
HULL, ARCHIE VILAN, 423 West Forest St., Brigham City, Utah.....	1926
HULSBURG, EDMUND FRANK, 340 S. Catherine Ave., La Grange, Ill....	1928
HUNN, MISS DOLORES REISSIG DE MURGINONDO, 1218 Prospect Ave., Plainfield, N. J.....	1929
HUNN, JOHN TOWNSEND SHARPLESS, 1218 Prospect Ave., Plainfield, N. J. ....	1895
HUNSAKER, WALTER J., 430 N. Jefferson Ave., Saginaw, Mich.....	1928
HUNT, CHRISWELL JOHN, 810 S. 18th Ave., Maywood, Ill.....	1919
HUNT, MISS HELEN CUMMINGS, Brush Hill Road, P. O. Hyde Park, Milton, Mass.....	1928
HUNT, MISS LUCY OLCOTT, 185 Beacon St., Hartford, Conn.....	1919
HUNTER, MRS. KATHARINE UPHAM, Cupola Farm, West Claremont, N. H.....	1923



- HURD, MISS FRANCES AMELIA, 119 West Ave., South Norwalk, Conn. .1919  
 HUTCHISON, MRS. A. K., 286 Sherbrooke St., W., Montreal, Can. . . . .1927  
 \*HUYLER, COULTER DUNHAM, 17 East 45th St., New York, N. Y. . . . .1928  
 HUYLER, MRS. COULTER DUNHAM, Greenwich, Conn. . . . .1928  
 HYDE, ARTHUR SIDNEY, Biol. Surv., Dept. Agriculture, Washington,  
 D. C. . . . .1921  
 HYDE, BENJAMIN TALBOT BABBITT, 558 Camino del Monte Sol, Santa  
 Fe, N. M. . . . .1925  
 HYDE, MRS. SILKMAN ELTING, Mayfield, Idaho . . . . .1918  
 HYSLOP, SAMUEL, 42 Bellevue St., Newton, Mass. . . . .1919  
 ICKES, RAYMOND, 900 S. Private Road, Hubbard Woods, Ill. . . . .1928  
 IJAMS, HENRY PEARLE, R. F. D. 9, Knoxville, Tenn. . . . .1922  
 INGALLS, MRS. LLOYD OSCAR, 250 S. Sultana Ave., Temple City, Calif. 1925  
 \*\*INGERSOLL, ALBERT MILLS, 908 F St., San Diego, Calif. . . . .1885  
 INGERSOLL, ROBERT STURGIS, 1035 Land Title Bldg., Phila., Pa. . . . .1925  
 INGRAM, GEOFFREY CHESELDEN SPENCER, 22 Waterloo Road, Roath,  
 Cardiff, South Wales. . . . .1928  
 ISENBERG, A. H., 286 Atherton Ave., Menlo Park, Calif. . . . .1929  
 ISHAM, CHARLES BRADLEY, 909 Valley Rd., Upper Montclair, N. J. . . .1891  
 JACKSON, DR. HARTLEY HARROD THOMPSON, Biological Survey,  
 Washington, D. C. . . . .1910  
 JACOBI, DR. ARNOLD, Museum fur Tierkunde, Dresden 1, Germany . . .1929  
 JACOBS, MISS MARTHA LOUISE, 404 S. Washington St., Waynesburg,  
 Pa. . . . .1927  
 JACOBS, WILLIAM FRANCIS, 404 S. Washington St., Waynesburg, Pa. 1924  
 JACOT, EDWARD CESAR, Box 462, Prescott, Ariz. . . . .1923  
 JAMES, MRS. ALVIN ORLANDO, 4100 Grove Ave., Richmond, Va. . . . .1925  
 JAMES, NORMAN, P. O. Drawer D2, Baltimore, Md. . . . .1913  
 JANVRIN, DR. EDMUND RANDOLPH PEASLEE, 38 East 85th St., New  
 York, N. Y. . . . .1919  
 JAKUES, FRANCIS LEE, Am. Mus. Nat. Hist., New York, N. Y. . . . .1924  
 JARRARD, MISS BERMA LUCILLE, 733 Frederica St., N. E., Apt. 12,  
 Atlanta, Ga. . . . .1928  
 JAY, WILLIAM, 12 Westview St., Mt. Airy, Philadelphia, Pa. . . . .1921  
 JEFFERSON, MRS. EDITH HURLBUT, 1381 Prairie Ave., Des Plaines, Ill. 1929  
 JELIER, FRANCISCUS PETER, Groote Visscherijstraat 19a, Rotterdam,  
 Holland . . . . .1928  
 JENKS, CHARLES WILLIAM, Bedford, Mass. . . . .1912  
 JENKS, RANDOLPH, Mt. Kemble, Morristown, N. J. . . . .1928  
 JENNINGS, DR. GEORGE HERMAN, Jewett City, Conn. . . . .1918  
 JENNINGS, RICHARD DUDLEY, 227 Harrison St., East Orange, N. J. . . .1913  
 JENNISON, FRANCIS JOSEPH, Box 939, Marquette, Mich. . . . .1925  
 JENSEN, JENS KNUDSEN, Canyon Road, Santa Fe, N. M. . . . .1912  
 JENSEN, JESSE PETER, Box 364, Dassel, Minn. . . . .1926  
 \*JOHNSON, CHARLES ALFRED, 1030 15th St., Denver, Colo. . . . .1927  
 JOHNSON, PROF. CHARLES EUGENE, College Forestry, Syracuse, N. Y. .1919



JOHNSON, MRS. GRACE PETTIS, Museum Nat. Hist., Springfield, Mass.	1908
JOHNSTON, ISRAEL HAYLOCK, 733 Myrtle Ave., Charleston, W. Va.	1922
JONES, CHARLES LESLIE, P. O. Box 223, Weldon, N. C.	1929
JONES, HAROLD CHARLES, 352 W. College St., Oberlin, Ohio	1924
JONES, DR. LOMBARD CARTER, Falmouth, Mass.	1917
JONES, NELSON TAYLOR, Royal Ontario Mus., Toronto, Ont., Can.	1925
JONES, S(OLOMON) PAUL, 509 West Ave., North, Waukesha, Wis.	1920
JONES, WILLIAM FROST, Norway, Maine	1918
**JORDAN, ALVAH HENRY BEDELL, Lowell, Wash.	1888
JUMP, MRS. EDWIN ROBERT, 97 Oakleigh Road, Newton, Mass.	1910
JUNG, CLARENCE SCHRAM, 518 Stratford Ct., Milwaukee, Wis.	1921
JUNK, DR. WILHELM, Sachsische Strasse 68, Berlin, W. 15, Germany	1928
KAHL, PAUL HUGO ISADOR, Carnegie Museum, Pittsburgh, Pa.	1924
KAHMAN, KARL WILLIAM, Rt. 2, Hayward, Wis.	1925
KASSOY, IRVING, 898 Irvine St., Bronx, New York, N. Y.	1929
KAVANAGH, THOMAS JOSEPH, c/o McCahan's, Tasker St. Wharf, Philadelphia, Pa.	1929
KEALY, MISS LULU, 14 Blackburn Ave., Ottawa, Ont., Can.	1926
KEANE, MELVIN PETER, 3 East 106th St., New York, N. Y.	1929
KEAYS, JAMES EDWARD, 328 St. George St., London, Ont., Can.	1899
KEE, HUNTER, 36 9th Ave., Marlinton, W. Va.	1920
KEESLER, RAY LEWIS, Box 147, Forestville, Butler Co., Pa.	1924
KELLEY, NORMAN PANTON, 625 Oriole Parkway, Toronto, Ont., Can.	1927
KELLOGG, PAUL, 11 Church St., Cortland, N. Y.	1929
KELLOGG, RALPH TODD, Silver City, N. M.	1913
KELLY, MRS. GEORGE EARLE, 1311 Grand St., Alameda, Calif.	1929
KELLY, ORVAL EDGAR, P. O. Box 28, Warkworth, Ont., Can.	1926
KELLY, WILLIAM NIELSON, Terminal City Club, Vancouver, B. C. Can.	1927
KELSO, DR. JOHN EDWARD HARRY, Edgewood, Lower Arrow Lake, B. C., Can.	1915
KELSO, LEON, 9901 East Colfax St., Aurora, Colo.	1929
KEMSIES, EMERSON, 37 Morgan St., Oberlin, Ohio	1927
KENDEIGH, SAMUEL CHARLES, Rt. 2, Amherst, Ohio	1923
KENNEDY, DR. HARRIS, Readville 37, Mass.	1916
*KENNEDY, HARRY HOWARD, Box 710, Reno, Nev.	1920
KENNEDY, HOMER NEY, 16585 Burt Rd., Detroit, Mich.	1924
KENT, DUANE ELSON, 39 Moore Place, Rutland, Vt.	1913
KENT, EDWARD GRUET, 9 Highland Ave., Madison, N. J.	1919
KENT, EDWIN CLARK, 80 William St., New York, N. Y.	1907
KEPNER, MRS. CLYDE METZGER, R. F. D. 2, Randallstown, Md.	1922
KERMODE, FRANCIS, Provincial Museum, Victoria, B. C., Can.	1926
KERN, DR. SAMUEL BENJAMIN, 662 Main St., Slatington, Pa.	1925
KERRUISH, MRS. ELLA BENNIS, Littleton, Colo.	1929
KESSLER, MISS JOSEPHINE DILWORTH, 472 West Manheim St., Germantown, Philadelphia, Pa.	1929

- KEYES, MRS. CHARLES FREDERICK, 2225 Lake of Isles Blvd., Minneapolis, Minn. .... 1922
- \*KIDDER, NATHANIEL THAYER, Milton, Mass. .... 1906
- KIEFNER, CHARLES HAROLD, 1507 Waverly St., San Antonio, Texas. . . 1926
- KILGORE, WILLIAM, JR., Mus. Nat. Hist., Univ. Minn., Minneapolis, Minn. .... 1906
- KILGUS, JOHN FRANK, JR., 422 High St., Williamsport, Pa. .... 1922
- KING, MISS GRACE WALKER, 11 Heath Hill, Brookline, Mass. .... 1924
- KING, IRVING J., Collins Center, Erie Co., N. Y. .... 1924
- KING, LE ROY, 15 William St., New York, N. Y. .... 1901
- \*KIRKHAM, STANTON DAVIS, 152 Howell St., Canandaigua, N. Y. .... 1910
- KIRKHAM, WILLIAM BARRI, 275 Maple St., Springfield, Mass. .... 1922
- KIRKPATRICK, DONALD NORRIS, 710 Clay Ave., Scranton, Pa. .... 1926
- KIRKPATRICK, HARRY CLAY, 1166 Water St., Meadville, Pa. .... 1921
- KIRKWOOD, FRANK COATES, R. F. D. 3, Monkton, Md. .... 1892
- \*KIRN, ALBERT JOSEPH BERNARD, Box 157, Somerset, Texas. .... 1918
- KITTREDGE, JOSEPH, JR., Lake States Forest Exp. Sta., Univ. Farm, St. Paul, Minn. .... 1910
- KLAGES, SAMUEL MILTON, c/o Dept. Ornithology, Carnegie Museum, Pittsburgh, Pa. .... 1929
- KLINCK, NORMAN E., 38 West Parade Ave., Buffalo, N. Y. .... 1928
- KLOSEMAN, MISS JESSIE EMMA, Beal Hall, 20 Charlesgate W., Boston, Mass. .... 1909
- \*KLOTZ, CHARLES DOLESE, 722 Prospect Ave., Winnetka, Ill. .... 1923
- KNAEBEL, ERNEST, 3707 Morrison St., Washington, D. C. .... 1906
- KNAPP, ELMER, R. R. 2, Troy, Pa. .... 1929
- KNAPPEN, MISS PHOEBE MALURA, 2925 Tilden St., N. W., Washington, D. C. .... 1924
- KNAPPEN, MRS. THEODORE MACFARLANE, 2925 Tilden St., N. W., Washington, D. C. .... 1926
- KNAUZ, MISS MARIE BERTHA, 1217 Trevanion Ave., Regent Sq., Pittsburgh, Pa. .... 1924
- \*KNICKERBOCKER, CHARLES KENNEDY, 410 N. Michigan Ave., Chicago, Ill. .... 1922
- KNIGHTON, JOSEPH EDWARD, 923 Erie St., Shreveport, La. .... 1929
- KOBBE, FREDERICK WILLIAM, 1155 Park Ave., New York, N. Y. .... 1921
- KOCH, DR. BASTIAN, Neuhuyskade 64, The Hague, Holland .... 1928
- KOMAREK, EDWIN VACLAV, Academy of Sciences, Chicago, Ill. .... 1927
- KRETZMANN, DR. PAUL EDWARD, 801 DeMun Ave., St. Louis, Mo. .... 1913
- KUBICHEK, WESLEY FRANK, Coe College, Cedar Rapids, Iowa. .... 1919
- KUERZI, JOHN FRANCIS, 978 Woodycrest Ave., Bronx, New York, N. Y. .... 1925
- KUMMERLOEWE, DR. HANS, Cichoriusstrasse 6 III, Leipzig-Reudnitz, Germany .... 1928
- KUSER, MRS. ANTHONY RUDOLF, Bernardsville, N. J. .... 1910
- KUSER, JOHN DRYDEN, Bernardsville, N. J. .... 1910

KUTCHIN, DR. VICTOR, Green Lake, Wis. ....	1922
LABARTHE, JULES, 148 Kingsway, Winnipeg, Man., Can. ....	1920
LABRIE, WILLIE, Kamouraska (Moulin), Que., Can. ....	1927
LACEY, MILTON SILLIMAN, 875 Main St., Bridgeport, Conn. ....	1925
LADOW, STANLEY VAUGHAN, 56 W. 12th St., New York, N. Y. ....	1913
LAFRANCE, PHILIP ALBERT, Laconia, N. H. ....	1926
LAING, HAMILTON MACK, Comox, B. C., Can. ....	1917
LAING, MISS MARY ELIZABETH, Granville, N. Y. ....	1927
LAMB, CHARLES REUBEN, 161 Summer St., Boston, Mass. ....	1912
LAMB, CHESTER CONVERSE, Museum Vert. Zool., Berkeley, Calif. ....	1926
LANCASHIRE, MRS. JAMES HENRY, 11 East 69th St., New York, N. Y. ....	1909
LANCELEY, WILLIAM HENRY, 23 Elmdale Ave., Ottawa, Ont., Can. ....	1926
LANDI, FLORINDO, 59 Ossining Rd., Pleasantville, N. Y. ....	1925
LANG, HARRY MORSE, 1538 Rockland Ave., Beechwood, Pittsburgh, Pa. ....	1924
LANG, HERBERT, Am. Mus. Nat. Hist., New York, N. Y. ....	1907
LANGDON, ROY MONROE, 329 Elizabeth St., Fort Collins, Colo. ....	1918
LANGELIER, GUSTAVE ADOLPHE, Cap Rouge, Que., Canada. ....	1923
LANGSTROTH, JAMES HEIDEL, "Bin D," Silver City, N. M. ....	1924
LARGE, JOHN WARREN, Box 904, Reading, Pa. ....	1929
LARRABEE, PROF. AUSTIN PARK, Yankton College, Yankton, S. Dak. ....	1918
LASTRETO, CHARLES BARTHOLOMEW, 260 California St., San Francisco, Calif. ....	1919
LATHAM, ROY, Orient, L. I., N. Y. ....	1916
LAURENT, PHILIP, 31 E. Mt. Airy Ave., Philadelphia, Pa. ....	1902
LAWRENCE, ALEXANDER GEORGE, City Health Dept., Winnipeg, Man., Can. ....	1920
LAWRENCE, ROBERT BOWNE, 411 Westmoreland Ave., Houston, Texas (1883) ....	1923
LAWSON, DR. ELSTON HARMON, Ganges, B. C., Can. ....	1927
LAWSON, RALPH, 88 Washington Sq. East, Salem, Mass. ....	1917
LAZEAR, JOHN McKELVY, 922 S. Negley Ave., Pittsburgh, Pa. ....	1922
LEAKE, BRUCE WYBORN, Cardonia, Kellerberrin, Western Australia ..	1929
LEE, HENRY EDWIN, Box 495, Rapid City, S. D. ....	1925
LEFEVRE, RUFUS HARRY, Seneca Castle, Ontario Co., N. Y. ....	1927
LEIGHTON, ALEXANDER HAMILTON, P. O. Box 256, Rosemont, Pa. ....	1927
LEIGHTON, MRS. ARCHIBALD OGILVIE, P. O. Box 256, Rosemont, Pa. ....	1927
LEISTER, CLAUDE WILLARD, Zool. Park, 185th St. & Southern Blvd., New York, N. Y. ....	1916
LEOPOLD, ALDO, 421 Chemistry Bldg., Univ. Wis., Madison, Wis. ....	1929
LERMOND, NORMAN WALLACE, R. F. D. 1, Thomaston, Maine. ....	1921
LETL, FRANK HENRY, Field Mus., Chicago, Ill. ....	1925
LEVI, WENDELL MITCHELL, Sumter, S. C. ....	1928
LEWIS, F., Dept. Fisheries & Game, 143 King St., Melbourne, Australia ....	1929
LEWIS, DR. HARRISON FLINT, Can. Nat. Parks, Ottawa, Ont., Can. ....	1912

LEWIS, MRS. HERMAN ENOCH, 180 Grove St., Haverhill, Mass.	1912
LEWIS, JOHN BARZILLAI, P. O. Box 86, Amelia, Va.	1924
LEWIS, MERRIAM GARRETSON, 512 Highland Rd., Lexington, Va.	1924
LEWIS, MISS NINA FISHER, Rittenhouse Plaza, 19th & Walnut Sts., Philadelphia, Pa.	1929
LEWY, DR. ALFRED, 2051 E. 72d Place, Chicago, Ill.	1922
L'HOMMEDIEU, JAMES FRANK, Gen. Sec'y, Y. M. C. A., Thomasville, Ga.	1924
LINDSEY, DR. HOOKER OLIVER, 527 Ricou-Brewster Bldg., Shreveport, La.	1929
LINGS, GEORGE HERBERT, The Grange, Cheadle, Cheshire, England	1913
LINSDALE, DR. JEAN MYRON, Museum Vert. Zool., Berkeley, Calif.	1922
LINTON, MORRIS ALBERT, 315 East Oak Ave., Moorestown, N. J.	1928
LIPPINCOTT, JOSEPH WHARTON, Bethayres, Pa.	1926
LITTLE, MRS. EFFIE KEARNEY, R. F. D. 1, Lowell, Ind.	1922
LITTLE, LUTHER, 1400 Wayne Ave., S. Pasadena, Calif.	1913
LIVINGSTON, PHILIP ATLEE, P. O. Box 302, Narberth, Pa.	1927
LOYD, MRS. WILMOT, 582 Mariposa Ave., Rockcliffe Park, Ottawa, Ont., Can.	1925
LOCKE, DR. EDWIN ALLEN, 311 Beacon St., Boston, Mass.	1920
LOCKWOOD, DEAN PUTNAM, 6 College Circle, Haverford, Pa.	1921
LODGE, FRED STERLING, 423 S. Stone Ave., LaGrange, Ill.	1922
LOESCH, FRANK JOSEPH, 1540 Otis Bldg., 10 S. LaSalle St., Chicago, Ill.	1925
LOLY, VICTOR GOLDING, Box 127, Anaheim, Calif.	1929
LONG, HARRY VINTON, 260 Clarendon St., Boston, Mass.	1920
LONGSTREET, RUBERT JAMES, 610 Braddock Ave., Peninsula Sta., Daytona Beach, Fla.	1923
LOOMIS, EVARTS GREENE, 275 Montclair Ave., Newark, N. J.	1929
LOOMIS, HOWARD B., 1300 Sunnyhills Road, Oakland, Calif.	1929
LOOMIS, LEE JOHNSON, 202 E. Union St., Union, N. Y.	1925
LÖPPENTHIN, BERNT OVE HARTVIG FABRICIUS, Sundholm, Copenhagen S., Denmark	1928
LORD, FREDERIC POMEROY, 39 College St., Hanover, N. H.	1922
LORING, JOHN ALDEN, Owego, Tioga Co., N. Y.	1917
LOTHROP, DR. OLIVER AMES, 101 Beacon St., Boston, Mass.	1920
LOVERIDGE, ARTHUR, Mus. Comp. Zool., Cambridge, Mass.	1924
LOW, ETHELBERT IDE, 256 Broadway, New York, N. Y.	1907
LOW, WARWICK JAMES, 16 Highland Ave., Montreal, Que., Can.	1923
LOWE, JOHN NICHOLAS, Specular St., Marquette, Mich.	1925
*LOWNES, ALBERT E., P. O. Box 1531, Providence, R. I.	1924
LUM, EDWARD HARRIS, Chatham, N. J.	1904
LUNN, MISS LULU MAY, 724 Villa St., Racine, Wis.	1920
LUNN, MISS MARGARET ALLEN, University Women's Club, 1634 Eye St. N. W., Washington, D. C.	1919
LUTTRINGER, LEO AMOS, JR., 1203 N. 16th St., Harrisburg, Pa.	1929

LYLE, ROBERT BARTON, No. 4 Cumberland Apts., Johnson City, Tenn.	1929
LYNDE, DR. ROY, Ellendale, N. Dak.	1929
LYNES, REAR ADMIRAL HUBERT, R. N., 23 Onslow Gardens, London	
S. W. 7, England	1928
LYON, DR. MARCUS WARD, JR., 214 La Porte Ave., South Bend, Ind.	1922
MACCOY, CLINTON VILAS, 1 Lenox Hall, 1213 Beacon St., Brookline,	
Mass.	1920
MACFARLANE, MRS. D. H., Mont St. Hilaire, Que., Can.	1928
MACKAY, CHARLES DESAUSSEURE, 6304 16th St. N. W., Washington,	
D. C.	1929
MACKAYE, JAMES, 6 College St., Hanover, N. H.	1921
MACKWORTH-PRAED, CYRIL WINTHROP, Dalton Hill, Albury, Surrey,	
England	1928
MACLAY, MARK WALTON, JR., 44 Wall St., New York, N. Y.	1905
MACLAREN, MISS CAROLINE ELIZABETH, Carleton Place, Ont., Can.	1928
MACLEAY, CHARLES RODERICK, Sayabec, Que., Can.	1927
MACLENNAN, JAMES PIRRIE, 454 42nd St., Brooklyn, N. Y.	1924
MACLOGHLIN, MRS. FFORDE EDWARD, 43 Inglewood Drive, Hamilton,	
Ont., Can.	(1923) 1926
MACNUTT, ERNEST GERRARD, 4308 Montrose Ave., Montreal, Can.	1928
MACREYNOLDS, GEORGE, 76 E. State St., Doylestown, Pa.	1917
MACTIER, ANTHONY DOUGLAS, Vice Pres. Can. Pacific Ry., Montreal,	
Can.	1928
MADDOCK, MISS EMELINE, 4528 Walnut St., Philadelphia, Pa.	1897
MADISON, HAROLD LESTER, Cleveland Mus. Nat. Hist., 2717 Euclid	
Ave., Cleveland, Ohio	1912
MAGEE, MICHAEL JARDEN, 603 South St., Sault Ste. Marie, Mich.	1919
MAHER, JOHN EDWARD, 323 Pacific Ave., Jersey City, N. J.	1902
MAIN, JOHN S., 2210 Van Hise Ave., Madison, Wis.	1926
MALCOMSON, HERBERT THOMAS, Glenorchy, Hawthornden Rd., Knock,	
Belfast, Ireland	1928
MANN, DR. WILLIAM M., Nat. Zool. Park, Washington, D. C.	1925
MANUEL, CANUTO GUEVARRA, Museum Zool., Ann Arbor, Mich.	1929
MAPLES, ASHLEY KILSHAW, 33 London Road, Spalding, England	1928
MARBLE, RICHARD MERRILL, Woodstock, Vt.	1907
MARBURGER, CLIFFORD, Denver, Pa.	1923
MARCOTTE, REV. LEON, St. Charles Seminary, Sherbrooke, Que., Can.	1921
MARDEN, AARON, Eagle Id., South Harpswell, Maine	1924
MARESI, POMPEO M., 36 West 44th St., New York, N. Y.	1929
MARKS, EDWARD SIDNEY, 655 Kearney Ave., Arlington, N. J.	1915
*MARSHALL, MRS. ELLA MARIA ORMSBY, New Salem, Mass.	1912
MARTIN, FRED IRVING, Rt. 1, Box 58, Manchester, N. H.	1921
MARTIN, NELSON, 274 St. Clarens Ave., Toronto, Ont., Can.	1928
MASON, ROBERT FRENCH, JR., Toronto Apts., Washington, D. C.	1929
MASON, MISS ROSALIE, Beachton, Grady Co., Ga.	1928
MASSEY, MISS ANNE, 1921 East 97th St., Suite 203, Cleveland, Ohio	1929



MASTERS, WAYNE W., Box 54, Everton, Ind. ....	1927
MATHEWS, FERDINAND SCHUYLER, 17 Frost St., Cambridge, Mass. ....	1917
MATHEWS, FRANK PELLETREAU, 160 Kent St., Brookline, Mass. ....	1923
MATHEWS, ROBERT STUART, 49 West 52nd St., New York, N. Y. ....	1928
MATTISON, MISS MARY FRANCES, 463 North St., Anderson, S. C. ....	1928
MAY, DR. JOHN BICHARD, South Main St., Cohasset, Mass. .... (1916)	1922
MAYAUD, NOEL, 1 rue de Bordeaux, Saumur, Maine et Loire, France. .	1927
MAYFIELD, DR. GEORGE R., Kissam Hall, Nashville, Tenn. ....	1917
MAYNARD, DR. HERBERT ERNEST, 464 Commonwealth Ave., Boston, Mass. ....	1921
MAYR, DR. ERNST, Whitney South Sea Expedition, c/o Burns, Philip & Co., Sydney, N. S. W., Australia. ....	1929
MCCABE, THOMAS TONKIN, Barkerville, Indianpoint Lake, B. C., Can. .	1920
MCCALL, WILLIAM WHITE, 721 Millbrook Lane, Haverford, Pa. ....	1921
MCCANN, HORACE DOLBEY, Valley Road, Paoli, Pa. ....	1923
MCCCLINTOCK, NORMAN, 504 Amberson Ave., Pittsburgh, Pa. ....	1900
MCCOOK, PHILIP JAMES, 413 E. 57th St., New York, N. Y. ....	1895
MCCRIMMON, A. R., Montrose, Colo. ....	1924
MCDONALD, MRS. GEORGE, Mt. Pleasant Ave., Wyoming, Ohio. ....	1929
MCDONALD, NORMAN JOHN, 201 Price Ave., Narberth, Pa. ....	1927
MCDUGALL, NEIL ALBAN, Summerside, P. E. I., Can. ....	1927
MCGAHEY, MISS PEARL HONORA, Can. Nat. Parks, Ottawa, Can. ....	1926
MCLHENNY, EDWARD AVERY, Avery Island, La. ....	1894
MCINTOSH, FRANKLIN GRAY, 1520 Liberty St., Franklin, Pa. ....	1925
McKENNY, MISS MARGARET, Am. Mus. Nat. Hist., New York, N. Y. .	1926
McKITTRICK, THOMAS HARRINGTON, JR., 28 Chelsea Park Gardens, London S. W. 3, England. ....	1928
McKONE, MRS. MARGARET A., R. R. 4, London, Ont., Can. ....	1927
McLAIN, ROBERT BAIRD, P. O. Box 132, Hollywood Sta., Los Angeles, Calif. ....	1893
McMILLAN, MRS. GILBERT NEWBERRY, 4640 Delafield Ave., Riverdale on Hudson, New York, N. Y. ....	1902
McMULLEN, TURNER ELLSWORTH, 933 N. 5th St., Camden, N. J. ....	1920
McNEIL, DR. CHARLES ANDREW, 111½ W. 4th St., Sedalia, Mo. ....	1919
McNEIL, GEORGE MARTYN, 195 Lincoln St., Winthrop, Mass. ....	1920
MEAD, MRS. ELDORA MEHITABLE, 51 E. 78th St., New York, N. Y. .	1904
MEADOWS, DONALD CHARLES, Box 732, Avalon, Santa Catalina Island, Calif. ....	1929
MEAD, LYLE GAGE, 709 N. Pine Ave., Austin Sta., Chicago, Ill. ....	1921
MEDSGER, OLIVER PERRY, 9 Columbia Ave., Arlington, N. J. ....	1929
MEGREW, ALDEN FRICK, 265 Clarendon St., Boston, Mass. ....	1923
MEIKLEJOHN, LT. COL. RONALD FORBES, c/o Lloyd's Bank Ltd. (Section F. <sup>2</sup> ), 6 Pall Mall, London S. W. 1, England. ....	1928
MELCHER, MRS. CHARLES WOODBURY, 736 Randall St., Downers Grove, Ill. ....	1922
MELLEN, DR. ELEANOR, 291 Lake Ave., Newton Highlands, Mass. .	1920



MENGEL, GEORGE HENRY, 739 Madison Ave., Reading, Pa. ....	1913
MENNINGER, DR. WILLIAM CLAIRE, 1280 Duane St., Topeka, Kans. . .	1919
MEREDITH, REX, 121 Monckton Ave., Quebec, Can. ....	1927
MERRIAM, DR. HENRY FRANKLIN, 165 Orange Heights Ave., W. Orange N. J. ....	1905
MERRILL, MRS. CHARLES HUDSON SAYRE, 95 Hinckley Road, Milton, Mass. ....	1924
MERRILL, DAYTON EUGENE, 5th and Sycamore Sts., Rogers, Ark. ....	1913
MERRIMAN, ROBERT OWEN, 101 Clergy St., W., Kingston, Ont., Can. .	1920
*MERSHON, WILLIAM BUTTS, Saginaw, Mich. ....	1905
MESSER, DON VINAL, Huntington, Mass. ....	1924
METCALF, JESSE, 130 East 67th St., New York, N. Y. ....	1926
METCALF, DR. ZENO PAYNE, State College Station, Raleigh, N. C. . .	1913
METZGER, CHARLES THOMAS, 6312 S. Ashland Ave., Chicago, Ill. ....	1929
*MEYER, MISS HELOISE, Lenox, Mass. ....	1913
MICHENER, HAROLD, 418 N. Hudson Ave., Pasadena, Calif. ....	1926
MIDDLETON, RAYMOND JONES, Marshall St. and Whitehall Road, Norristown, Pa. ....	1920
MILLEN, MISS CHARLOTTE, Standish Hall, Hull, Que., Can. ....	1928
MILLER, ALDEN HOLMES, Museum Vert. Zool., Berkeley, Calif. ....	1929
MILLER, MISS BERTHA STUART, Capstone Farm, R. 3, Kingston, N. Y. .	1915
MILLER, CHARLES, R. R. 1, London, Ark. ....	1927
MILLER, GERALD AUSTIN, 402 Reading St., Pennington, N. J. ....	1929
MILLER, ISAAC PENNINGTON, 111 South 4th St., Philadelphia, Pa. . .	1925
MILLER, MISS MARY MANN, 5928 Hayes Ave., Los Angeles, Calif. . .	1921
MILLER, RICHARD FIELDS, 2627 North Second St., Philadelphia, Pa. .	1928
MILLS, DUDLEY HOLBROOK, Glen Cove, L. I., N. Y. ....	1929
MILLS, HERBERT H., Jenkintown Manor, Jenkintown, Pa. ....	1927
MILLS, WIER ROBSON, Pierson, Iowa. ....	1920
MINER, JACK, Kingsville, Ont., Can. ....	1927
MINER, LEO DWIGHT, 2910 44th Place, N. W., Washington, D. C. . .	1913
MINNICH, MISS FRANCES, 2015 North B St., Elwood, Ind. ....	1929
MIRICK, HENRY DUSTIN, 3637 Locust St., Philadelphia, Pa. ....	1925
MITCHELL, MISS CATHERINE ADAMS, 144 Fairbank Road, Riverside, Ill. ....	1911
MITCHELL, HORACE HEDLEY, 1232 15th Ave., Regina, Sask., Can. ....	1918
MITCHELL, MRS. OSBORNE SINDEN, 24 Wychwood Park, Toronto, 10, Ont., Can. ....	1928
MITCHELL, DR. WALTON IUNGERICH, 1644 Visalia St., Berkeley, Calif. .	1893
MITCHELL, WILLIAM GORDON, c/o Price Bros. Ltd., Quebec, Can. ....	1926
MITSC, GRANT EMERSON, Brownsville, Ore. ....	1926
MOFFATT, EDWARD ELIAS, 146 Oak St., Winsted, Conn. ....	1926
MOFFITT, JAMES, 1879 Broadway, San Francisco, Calif. ....	1926
MONK, HARRY CRAWFORD, Avoca Apts., Nashville, Tenn. ....	1921
MOODY, ADELBERT JOHN, c/o Aetna Life Ins. Co., Hartford, Conn. . .	1918

- MOORE, MRS. NETTIE LOUISE PURDY, 941 Starkwether Ave., Plymouth, Mich. .... 1925
- MOORE, ROBERT DUNHAM, 744 Walnut Ave., Redlands, Calif. .... 1929
- MOORE, WILLIAM HENRY, R. M. D. 1, Mouth Keswick, York Co., N. B., Can. .... 1928
- MOORHEAD, HORACE REYNOLDS, 1155 Park Ave., Apt. 3 East, New York, N. Y. .... 1926
- \*\*MORCOM, GEORGE FREAN, 243 N. Coronado St., Los Angeles, Calif. .... 1886
- MORE, ROBERT LEE, 1905 Wilbarger St., Vernon, Texas. .... 1921
- MOREHOUSE, BEAUMONT JOHN, Forestby, Branchville, Conn. .... 1926
- MOREY, MRS. LILLIAN DAME, Pinehurst Circle, Chevy Chase, Md. .... 1924
- MORGAN, BRENT MACFARLAND, 224 11th St., S. W., Washington, D. C. .... 1919
- \*MORGAN, JOHN SAGE, 27 Circuit Road, Chestnut Hills, Mass. .... 1927
- MORRELL, DR. ARCH HIRAM, 210 Maine Ave., Gardiner, Maine .... 1923
- MORRIS, MISS GRACE ALGER, Eagle Rock, Pa. .... 1924
- \*MORRIS, DR. LEWIS RUTHERFORD, 60 W. 58th St., New York, N. Y. .... 1923
- MORRISON, ALVA, 100 Milk St., Boston, Mass. .... 1915
- MORSE, FRANK EUGENE, 162 Boylston St., Boston, Mass. .... 1921
- MORSE, GEORGE WASHINGTON, 318 East 9th St., Tulsa, Okla. .... 1922
- MORSE, HARRY GILMAN, Huron, Ohio. .... 1912
- MORSE, MISS MARGARETTE ELTHEA, Viroqua, Wis. .... 1919
- MOSELEY, PROF. EDWIN LINCOLN, Bowling Green, Ohio. .... 1918
- MOTT, JOHN JOSEPH, P. O. Box 1562, Winnipeg, Man., Can. .... 1927
- MOULTON, FRANCIS SEVERN, 155 Adams St., Milton, Mass. .... 1926
- MOULTON, HERBERT FRANCIS, 132 North St., Ware, Mass. .... 1920
- MOYER, JOHN WILLIAM, Field Mus. Nat. Hist., Chicago, Ill. .... 1928
- MUELLER, WALTER JOSEF, 580 Beverly Road, Milwaukee, Wis. .... 1923
- MULLER, CARL LURMAN, 31 East 65th St., New York, N. Y. .... 1925
- MUNN, CAPT. PHILIP WINCHESTER, Puerto Alcudia, Majorca, Balearic Isles, Spain. .... 1929
- MUNTER, CAPT. WILLIAM HENRY, Pier No. 18, Stapleton, Staten Island, N. Y. .... 1927
- MURIE, OLAUS JOHAN, Jackson, Wyo. .... 1913
- MURPHY, MRS. GRACE EMELINE BARSTOW, 45 Oriole Ave., Bronxville, N. Y. .... 1919
- MURRAY, EDGAR A., 225 Covington Drive, Detroit, Mich. .... 1919
- MURRAY, DR. GILBERT D., 528 Madison Ave., Scranton, Pa. .... 1925
- MURRAY, REV. JAMES JOSEPH, D.D., 6 White St., Lexington, Va. .... 1928
- MUSSELMAN, THOMAS EDGAR, 124 S. 24th St., Quincy, Ill. .... 1922
- MUSSER, JAMES, R. F. D. 2, East Earl, Lancaster Co., Pa. .... 1928
- MYERS, EVERETT CLARK, Zool. Dept., Dartmouth College, Hanover, N. H. .... 1924
- MYERS, MRS. HARRIET WILLIAMS, 311 N. Ave. 66, Los Angeles, Calif. .... 1906
- MYERS, ORD, 216th St. and 9th Ave., New York, N. Y. .... 1922
- NAUMBURG, WALTER WEHLE, 48 Wall St., New York, N. Y. .... 1923

*NEELY, JAMES C., 135 High St., Brookline, Mass.	1919
NEFF, JOHNSON ANDREW, Neff Orchards, Marionville, Mo.	1919
NEFF, WILLIAM GRANT, 26 Wells Ave., Brantford, Ont., Can.	1926
NELSON, MISS THEODORA, Brooklyn Hunter College, 66 Court St., Brooklyn, N. Y.	1927
NETTING, GRAHAM, Carnegie Museum, Pittsburgh, Pa.	1925
NEWBEGIN, EDWARD KING, 62 Sparks St., Cambridge, Mass.	1924
NEWBOLD, CLEMENT BIDDLE, Gate Farm, Jenkintown, Pa.	1929
NEWCOMB, CYRENIUS ADELBERT, JR., Rt. 3, Pontiac, Mich.	1920
NEWCOMBE, W. A., 138 Dallas Rd., Victoria, B. C., Can.	1929
NEWELL, MRS. H. S., Board of Trade Bldg., Duluth, Minn.	1926
NICE, MRS. MARGARET MORSE, 156 W. Patterson Ave., Columbus, Ohio	1920
NICHOLS, LEON NELSON, 181 Claremont Ave., New York, N. Y.	1917
NICHOLS, RODMAN ARMITAGE, 7 S. Pine St., Salem, Mass.	1919
NICHOLSON, DONALD JOHN, P. O. Box 631, Orlando, Fla.	1925
NICHOLSON, WALTER ALEXANDER, Sea View Gardens, Gibson's Land- ing, near Vancouver, B. C., Can.	1928
NININGER, PROF. HARVEY HARLOW, 759 E. Euclid St., McPherson, Kans.	1920
NOKES, DR. IRWIN DANA, 1120 Rives Strong Bldg., Los Angeles, Calif.	1915
NORRIS, EDWARD, 301 W. Springfield Ave., Philadelphia, Pa.	1916
NORRIS, JOSEPH PARKER, JR., 2122 Pine St., Philadelphia, Pa.	1904
NORTH, GEORGE BELFORD, 34 West 53rd St., New York, N. Y.	1928
O'BRIEN, CHARLES EDWARD, Am. Mus. Nat. Hist., New York, N. Y.	1929
O'BRIEN, JOHN ERWIN, JR., 2400 16th St., N. W., Washington, D. C.	1926
*O'CONOR, JOHN CHRISTOPHER, 24 E. 33rd St., New York, N. Y.	1921
ODELL, THEODORE TELLAFSEN, 328 Pulteney St., Geneva, N. Y.	1926
OEHSER, PAUL HENRY, Biological Survey, Washington, D. C.	1925
OGBURN, CHARLTON, JR., 44 Randolph Hall, Cambridge, Mass.	1929
ODGEN, DR. HENRY VINING, 436 Summit Ave., Milwaukee, Wis.	1897
O'LEARY, ARTHUR LAWRENCE, 1033 Lawrence St., N. E., Washington, D. C.	1926
OLENCHAK, THOMAS R., 815 Brook St., Scranton, Pa.	1927
OLIVER, MRS. JAMES CONNOR, 529 Moreland Ave., N. E., Atlanta, Ga.	1928
ORMSBY, MRS. OLIVER SAMUEL, 5756 Blackstone Ave., Chicago, Ill.	1925
ORTEGA, JAMES LEROY, Costa Mesa, Orange Co., Calif.	1923
ORTMAN, MRS. ENID D., 4660 S. Franklin St., Englewood Sta., Denver, Colo.	1929
OSBORN, HARRY, 303 N. Gladstone St., Kansas City, Mo.	1927
OSBORN, PROF. HENRY FAIRFIELD, Am. Mus. Nat. Hist., New York, N. Y.	1919
OSBORN, MISS MARY ELIZABETH, Cushing House, Smith College, North- ampton, Mass.	1929
OSBORNE, ARTHUR AUGUSTUS, 183 Lowell St., Peabody, Mass.	1912

OSLER, HENRY S., 1 Rosedale Road, Toronto, Ont., Can.....	1920
OSTROM, DRANK HILTON, 21 Prince Rupert Apts., 585 O'Connor St., Ottawa, Ont., Can. ....	1928
OTIS, MISS OLIVE, 81 Front St., Exeter, N. H. ....	1926
OVER, WILLIAM HENRY, 125 Harvard St., N., Vermillion, S. Dak. ....	1921
OVERING, ROBERT, 3630 Grand Ave., Omaha, Nebr. ....	1929
*OWEN, MISS JULIETTE AMELIA, 306 N. 9th St., St. Joseph, Mo. ....	1897
*PACK, ARTHUR NEWTON, 11 Morven St., Princeton, N. J. ....	1929
PACKARD, WINTHROP, 1442 Washington St., Canton, Mass. ....	1917
PAFF, WILLIAM ALFRED, 916 Paxinosa Ave., Easton, Pa. ....	1927
PAGET-WILKES, A. H., Moroto, Karamoja, Uganda, British East Africa. ....	1929
**PAINE, AUGUSTUS GIBSON, JR., 31 E. 69th St., New York, N. Y. ....	1886
PAINE, JOHN BRYANT, Weston, Mass. ....	1922
PALAS, ARTHUR JULIUS, 663 49th St., Des Moines, Iowa. ....	1929
*PALEN, FREDERICK POMEROY, 233 Broadway, New York, N. Y. ....	1926
*PALMER, MISS ELIZABETH DAY, 1741 S. Harvard Blvd., Los Angeles, Calif. ....	1918
PALMER, DR. SAMUEL COPELAND, Swarthmore College, Swarthmore, Pa. ....	1899
PALMER, MRS. THEODORE SHERMAN, 1939 Biltmore St., N. W., Wash- ington, D. C. ....	1918
PANGBURN, CLIFFORD HAYES, Chappaqua, Westchester Co., N. Y. ....	1907
PARDEE, DR. LUCIUS CROCKER, Greenwood Inn, Evanston, Ill. ....	1926
*PARKER, EDWARD LUDLOW, Nashawtuc Road, Concord, Mass. ....	1916
PARKER, HARRY CLARENCE, Mus. Birds and Mammals, Lawrence, Kans. ....	1927
PARKER, HERBERT, South Lancaster, Mass. ....	1920
PARRY, EDWARD HICKS, Wyncote, Pa. ....	1929
PATCH, DR. EDITH MARION, College Road, Orono, Maine. ....	1921
PATTEN, DR. STEPHEN K., 141 Milk St., Boston, Mass. ....	1920
PATTERSON, JOHN ELLIOT, Pinehurst, Jackson Co., Ore. ....	1929
PAUL, LUCIUS H., 424 Carter St., Rochester, N. Y. ....	1908
PAUL, DR. ROBERT DORLAND, 1358 E. 47th St., Chicago, Ill. ....	1927
PEABODY, REV. PUTNAM BURTON, 2011 Park Ave., Topeka, Kans. ....	1903
PEAKE, ARTHUR LIONEL, Nanaimo, B. C., Can. ....	1927
PEARSE, SPENCER, Ravenscrag, Sask., Can. ....	1926
PEARSE, THEED, P. O. Box 158, Courtenay, Vancouver Id., B. C., Can. ....	1926
PEASE, MISS FLORENCE MABEL, Box 265, Conway, Mass. ....	1922
PELLEW, MISS MARION JAY, Box 455, Aiken, S. C. ....	1919
PEMBERTON, JOHN ROY, 525 N. Palm Drive, Beverly Hills, Calif. ....	1918
PEPPER, DR. WILLIAM, Melrose Park, Philadelphia, Pa. ....	1911
PERINE, KEBLE BARNUM, City Hall, West Newton, Mass. ....	1917
*PERKINS, DR. ANNE ELIZABETH, Gowanda State Hospital, Helmuth, N. Y. ....	1917
PERKINS, DR. EDWARD HENRY, Box 52, Waterville, Maine ....	1920

PERKINS, DR. GEORGE HENRY, Univ. of Vt., Burlington, Vt. ....	1912
PERKINS, SAMUEL ELLIOTT, THIRD, 701 Inland Bank Bldg., Indian- apolis, Ind. ....	1923
PERRY, EDGAR LE ROY, State Game and Fish Warden, Santa Fe., N. M. ....	1928
PERRY, GEORGE LEWIS, 68 Thurston St., Winter Hill, Somerville, Mass. ....	1923
PERRY, JOHN ELMER, 627 West 3rd St., Erie, Pa. ....	1924
PERRYGO, WATSON MONDELL, U. S. Nat. Museum, Washington, D. C. ....	1927
PETER, JULIUS CHRISTIAN, Detroit Trust Co., Detroit, Mich. ....	1921
PETERS, ALBERT S., Donnybrook, N. Dak. ....	1908
PETERS, HAROLD SEYMOUR, Bur. Entomology, Dept. Agr., Washing- ton, D. C. ....	1924
PETERS, WILLIAM YORK, 143 Bay State Road, Boston, Mass. ....	1925
PETERSON, ALFRED, Box 211, Pipestone, Minn. ....	1920
PETRIE, DR. RAYMOND CHESEBROUGH, 5 West Main St., Johnstown, N. Y. ....	1925
PEYTON, LAWRENCE GORHAM, R. F. D. 2, Fillmore, Ventura Co., Calif. ....	1924
PHELPS, FRANK MILLS, 130 Cedar St., Elyria, Ohio. ....	1912
PHELPS, MRS. JOHN WOLCOTT, Box 158, Northfield, Mass. ....	1899
*PHILIPP, PHILIP BARNARD, 220 Broadway, New York, N. Y. ....	1907
PHILLIPS, PROF. ALEXANDER HAMILTON, 54 Hodge Road, Princeton, N. J. ....	1891
PHILLIPS, CHARLES LINCOLN, 5 West Weir St., Taunton, Mass. ....	1912
*PHILLIPS, JOHN MACFARLANE, 2227 Jane St., Pittsburgh, Pa. ....	1920
PICKENS, ANDREW LEE, Zool. Dept., Univ. Calif., Berkeley, Calif. ....	1925
PICKWELL, GAYLE BENJAMIN, Natural Science Dept., State Teachers Coll., San Jose, Calif. ....	1924
PIERCE, WRIGHT McEWEN, Box 343, Claremont, Calif. ....	1918
PIGGOT, JOHN WHITMAN, Bridgetown, N. S., Can. ....	1927
*PIKE, EUGENE ROCKWELL, 2430 Lake View Ave., Chicago, Ill. ....	1926
*PINCHOT, HON. GIFFORD, 1615 R. I. Ave., N. W., Washington, D. C. ....	1910
PINCKNEY, MRS. ARTHUR, Summerville, S. C. ....	1928
PIRNIE, DR. MILES DAVID, Dept. of Conservation, Lansing, Mich. ....	1919
PITMAN, CAPT. CHARLES ROBERT SENHOUSE, Game Warden, Entebbe, Uganda, East Africa ....	1928
PITT, MISS FRANCES, The Albynes, Bridgnorth, England. ....	1929
PLATH, KARL, 2847 Giddings St., Chicago, Ill. ....	1925
PLATT, HON. EDMUND, 2339 Ashmead Pl., N. W., Washington, D. C. ....	1917
POE, MISS MARGARETTA, Earl Court, St. Paul & Preston Sts., Balti- more, Md. ....	1899
POMEROY, FRED ELMER, Dept. Biology, Bates College, Lewiston, Maine ....	1920
PÖNITZ, STUDIENRAT HANS, Frankfurterstr. 2, Leipzig, Germany. ....	1929
POOLE, EARL LINCOLN, Public Museum, Reading, Pa. ....	1916
POPENOE, CHARLES HOLCOMB, Bur. Entomology, Dept. Agr., Wash- ington, D. C. ....	1927



PORTER, EDGAR FRANCIS, R. F. D. 2, Athol, Mass.....	1922
PORTER, JAMES VANN, Box 394, Glenwood, Minn.....	1926
PORTER, LOUIS HOPKINS, Noroton Hill, Stamford, Conn.....	1893
PORTER, WILLARD BROWN, 5 Lee St., Salem, Mass.....	1922
POST, WILLIAM STONE, 101 Park Ave., New York, N. Y.....	1911
POTTER, MISS JESSICA A., 1118 Santee St., Los Angeles, Calif.....	1924
POTTER, JULIAN KENT, 437 Park Ave., Collingswood, N. J.....	1912
POTTER, LAURENCE BEDFORD, Gower Ranch, East End, Sask., Can....	1919
POTTER, LOUIS HENRY, R. F. D. 2, West Rutland, Vt.....	1922
POTTS, FREDERICK ANDREW, Fortuna, Porto Rico.....	1922
POTTS, THOMAS CHARLES, East Erie Ave. & D St., Philadelphia, Pa....	1923
POUGH, RICHARD HOOPER, 4 Lenox Place, St. Louis, Mo.....	1922
PRAEGER, WILLIAM EMILIUS, Kalamazoo College, Kalamazoo, Mich....	1892
PRATT, GEORGE DUPONT, 26 Broadway, New York, N. Y.....	1917
PRENTISS, REV. WILLIAM CARLOS, Plainfield, Conn.....	1921
PRESCOTT, MRS. SAMUEL CATE, 249 Tappan St., Brookline, Mass....	1922
PRICE, DR. LIGON, Dunmore, W. Va.....	1913
PRIEST, CAPT. CECIL DAMER, Mashumba's P. O., Wadza, Marandella, S. Rhodesia, S. Africa.....	1927
PRIEST, GEORGE HEYWOOD, 33 North Ash St., Brockton, Mass.....	1922
PRILL, DR. ALBRET G., Scio, Oregon.....	1921
PRITCHARD, DR. MYRON THOMAS, 215 Hollywood St., Peninsula Sta., Daytona Beach, Fla.....	1929
*PROCTOR, MRS. LILLIAN SANFORD, 410 Park Ave., New York, N. Y....	1928
*PROCTOR, WILLIAM, 30 East 42d St., New York, N. Y.....	1928
PROCTOR, GEORGE NEWTON, 50 Congress St., Boston, Mass.....	1919
PUMYEA, NELSON DEWITT, Mount Holly, N. J.....	1928
PURDIE, MISS EVELYN, 383 Harvard St., Cambridge, Mass.....	1921
PURDY, WILLIAM BROWN, Box 114, Milford, Oakland Co., Mich.....	1921
QUARLES, EMMET AUGUSTUS, 139 E. 7th St., Plainfield, N. J.....	1918
QUATTLEBAUM, MRS. EDITH BROCKETT, 1925 Paloma St., Pasadena, Calif.....	1928
QUATTLEBAUM, REV. WILLIAM DANIEL, 1925 Paloma St., Pasadena, Calif.....	1924
QUILLIN, ROY WILLIAM, 422 W. King's Highway, San Antonio, Texas.	1920
QUINCY, JOSIAH HATCH, 37 Stratford St., Boston 32, Mass.....	1922
QUINDRY, LELAND ARKELL, 704 S. Virginia Ave., Marion, Ill.....	1929
RACEY, KENNETH, 3262 First Ave., W. Vancouver, B. C., Can.....	1921
RALFE, PILCHER GEORGE, Castletown, Isle of Man, England.....	1928
RAND, AUSTIN LOOMER, McGraw Hall, Ithaca, N. Y.....	1927
RANSOM, WEBSTER HAMILTON, 708 W. 20th Ave., Spokane, Wash....	1927
RAPP, FREDERICK WILLIAM, 125 E. Prairie St., Vicksburg, Mich.....	1922
REAGH, DR. ARTHUR LINCOLN, 39 Maple St., West Roxbury, Mass....	1896
REATH, BENJAMIN BRANNAN 2d, Merion Sta., Montgomery Co., Pa....	1928
REDICK, LEONARD LeROY, Newington Junction, Conn.....	1924
REDINGTON, PAUL GOODWIN, Falls Church, Va.....	1927



REED, MRS. CARLOS ISAAC, 1615 S. 9th Ave., Maywood, Ill. ....	1920
REED, MRS. CHARLES KELLER, 11 State St., Worcester, Mass. ....	1925
REED, MISS CLARA EVERETT, Brookfield, Mass. ....	1919
REESE, MRS. ROBERT MILLER, 517 Cameron St., Alexandria, Va. ....	1920
REGAR, GEORGE BERTRAM, 434 Vernon Road, Noble Vista, Jenkin- town, Pa. ....	1923
REGAR, HOWARD SEVERN, 1400 DeKalb St., Norristown, Pa. ....	1916
REHN, JAMES ABRAHAM GARFIELD, Acad. Nat. Sci., Philadelphia, Pa. ....	1901
REID, MRS. BRUCE, Gulf Refinery, Port Arthur, Texas. ....	1918
REID, EARL DESMOND, U. S. Nat. Museum, Washington, D. C. ....	1927
REID, RUSSELL, 811 12th St., Bismarck, N. Dak. ....	1919
REIS, REV. JACOB ANTHONY, JR., Kribi, Efulan, Cameroun, French West Africa ....	1921
REYNARD, CHARLES ROBERT, 1418 N. 6th Ave., Tucson, Ariz. ....	1929
RHOADS, CHARLES JAMES, Bryn Mawr, Pa. ....	1895
**RHOADS, SAMUEL NICHOLSON, 81 Haddon Ave., Haddonfield, N. J. ....	1885
RICE, JAMES HENRY, JR., Brick House Plantation, Wiggins, S. C. ....	1910
RICE, WARD JENNINGS, 5250 N. Pennsylvania St., Indianapolis, Ind. ....	1913
RICH, MISS NELLIE VANDERVOORST, 21 Ely Ave., Mittineague, Mass. ....	1923
RICH, WALDO LEON, Box 221, Saratoga Springs, N. Y. ....	1921
RICHARDS, MISS HARRIET ELIZA, 36 Longwood Ave., Brookline, Mass. ....	1900
RICHARDS, MISS RUTH, Clifton Sta., Fairfax Co., Va. ....	1921
RICHARDSON, CARL, Altamont Auto Camp, Klamath Falls, Ore. ....	1929
RICHARDSON, FRIDRICK WILLIAM LEOPOLD, JR., Charles River, Mass. ....	1921
RICHARDSON, RUSSELL, JR., Newton, Bucks Co., Pa. ....	1924
RICHARDSON, WILLIAM DERRICK, 4215 Prairie Ave., Chicago, Ill. ....	1917
*RICHARDSON, MRS. WILLIAM DERRICK, 4215 Prairie Ave., Chicago, Ill. ....	1925
RICHARDSON, DR. WYMAN, 229 Dudley Road, Newton Centre, Mass. ....	1920
RIDGWAY, JOHN LIVZEY, 501 Fairmount St., Glendale, Calif. ....	1890
RIDDLE, SAMUEL EARL, The Texas Co., Oklahoma City, Okla. ....	1928
**RIKER, CLARENCE BAYLEY, 432 Scotland Road, South Orange, N. J. ....	1885
RIPLEY, WOLCOTT, 901 Lexington Ave., New York, N. Y. ....	1928
RISHEL, JOHN BENJAMIN, 1390 South Josephine St., Denver, Colo. ....	1922
RISSE, ALDEN FAIRCHILD, 1012 Laurel Ave., St. Paul, Minn. ....	1929
RITTER, WILLIAM CLARKE, 214 Thurston Ave., Ithaca, N. Y. ....	1929
RITTER, DR. WILLIAM EMERSON, Univ. California, Berkeley, Calif. ....	1929
*ROADS, MISS KATIE MYRA, 463 Vine St., Hillsboro, Ohio. ....	1929
ROBB, WALLACE HAVELOCK, Abbey Dawn, Rt. 1, Kingston, Ont., Can. ....	1921
ROBBINS, REGINALD CHAUNCEY, Northeast Harbor, Maine. ....	1921
ROBBINS, MRS. REGINALD CHAUNCEY, Northeast Harbor, Maine. ....	1921
ROBERTS, DR. FRANCIS LE ROY, 2811 West St., Ames, Iowa. ....	1928
ROBERTS, HOWARD RADCLYFFE, Villa Nova, Pa. ....	1924
ROBERTS, WILLIAM ELY, 207 McKinley Ave., Lansdowne, Pa. ....	1902
ROBERTSON, HOWARD, 157 S. Wilton Drive, Los Angeles, Calif. ....	1911
ROBERTSON, JOHN MCBRAIR, Box 121, Buena Park, Orange Co., Calif. ....	1920

ROBIE, WILLIAM P. F., Gorham, Maine.....	1926
ROBINSON, ANTHONY WAYNE, 780 College Ave., Haverford, Pa.....	1903
ROBINSON, HERBERT WILLIAM, 37 West Road, Lancaster, England...	1928
ROBINSON, MRS. L. K., 1130 S. Franklin St., Denver, Colo.....	1919
ROBINSON, MISS RACHEL GORGAS, 780 College Ave., Haverford, Pa. .	1928
RODDA, MRS. J. LANDON, 242 Princeton Ave., Palmerton, Pa.....	1925
RODOCK, ROY EDGAR, 812 6th Ave., Lewiston, Idaho.....	1929
ROE, MISS ELIZABETH FRANCES, 5923 Euclid Ave., Cleveland, Ohio .	1929
ROGERS, MRS. A. L., 1413 Myrtle St., Scranton, Pa. ....	1926
ROGERS, MISS MABEL FLORENCE, 11 Fourth Ave., Ottawa, Ont., Can.	1921
ROGERS, REV. WALLACE, 170 Waverly Way, N. E., Atlanta, Ga. ....	1921
ROLAND, CONRAD K., 441 44th St., Philadelphia, Pa.....	1917
ROLLINS, HARRY LEIGHTON, 646 Washington St., Wellesley, Mass....	1924
ROOSEVELT, HON. FRANKLIN DELANO, Albany, N. Y.....	1896
RORIMER, MRS. JOHN MORRIS, 1725 East 115th St., Cleveland, O. ....	1927
ROSE, FRANK HUBERT, Montana Nat. Bison Range, Moiese, Mont....	1927
ROSE, GEORGE CHILDS, 222 Front St., Mineola, N. Y.....	1920
ROSEN, WALTER MELVIN, P. O. Box 22, Ogden, Iowa.....	1928
ROSIER, EUGENE, Petit Saconnex, Geneva, Switzerland.....	1927
ROSS, MISS EDNA GRACE, Route 3, Pakenham, Ont., Can.....	1927
ROSS, GEORGE HERBERT, 23 West St., Rutland, Vt.....	1904
ROSS, LAURENCE STRAUB, 510 E. Second St., Moorestown, N. J. ....	1925
ROSS, DR. LUCRETIVS HENRY, 507 Main St., Bennington, Vt.....	1912
ROSS, MARJORIE RUTH, R. R. 5, Fairmont, W. Va. ....	1928
ROSS, REUBEN JAMES, 63 Wall St., New York, N. Y.....	1922
ROSS, ROLAND CASE, 1820 Bushnell Ave., South Pasadena, Calif....	1925
ROSSIGNOL, GILBERT RICE, 3698 S. W. 8th St., Miami, Fla.....	1928
ROTHROCK, BOYD PACKER, 276 Briggs St., Harrisburg, Pa.....	1925
ROYALL, JORDAN BROOKS, Tallahassee, Fla. ....	1928
RUBY, GEORGE DALLAS, 520 Clarendon St., Syracuse, N. Y. ....	1928
RUGG, HAROLD GODDARD, Dartmouth College, Hanover, N. H.....	1919
*RUMSEY, MRS. MARY HARRIMAN, Wheatley Hills, Westbury, L. I., N. Y.....	1925
RUPPERT, FRANK CULVER, 636 H. St., N. E., Washington, D. C.....	1927
RUSSELL, JOHN WILLIAM, 26 Osgood Ave., Manton, R. I. ....	1922
RUST, HENRY JUDSON, Coeur d'Alene, Idaho.....	1918
RUTTER, RUSSELL JAMES, 48 Burgess Ave., Toronto 13, Ont., Can....	1928
SAGE, DEWITT LINN, 580 Park Ave., New York, N. Y. ....	1925
**SAGE, HENRY MANNING, Menands Road, Albany, N. Y.....	1885
SAGE, MRS. MARY SEARL, 1974 Broadway, New York, N. Y.....	1919
SALOMONSEN, FINN, Slotsholmsgade 16, Copenhagen, Denmark.....	1927
SAMPSON, WALTER BEHRNARD, 1005 N. San Joaquin St., Stockton, Calif. ....	1922
SAMPSON, WILLIAM FRANCIS, 215 Market St., San Francisco, Calif. .	1929
SANBORN, COLIN CAMPBELL, Field Museum, Chicago, Ill. ....	1911
*SANFORD, DR. LEONARD CUTLER, 216 Crown St., New Haven, Conn. .	1919

SANSOM, NORMAN BETHUNE, 110 Muskrat St., Banff, Alta., Can. ....	1928
SANTENS, REMI HENRI, Carnegie Museum, Pittsburgh, Pa. ....	1918
SASS, HERBERT RAVENEL, 23 Legare St., Charleston, S. C. ....	1923
SATTERTHWAIT, MRS. ALFRED FELLEBERG, 118 Waverly Place, Webster Groves, Mo. ....	1920
SAUNDERS, FREDERICK ALBERT, 10 Chauncey St., Cambridge 38, Mass. ....	1923
SAUNDERS, GEORGE, 305 East Tenth St., Oklahoma City, Okla. ....	1925
SAVAGE, HENRY LYTTLETON, 622 E. Gravess Lane, Chestnut Hill, Philadelphia, Pa. ....	1926
SAVAGE, JAMES, 1048 Ellicott Sq., Buffalo, N. Y. ....	1895
SAVAGE, SORRELLO O'CONNOR, Parkdale, Ashley Co., Ark. ....	1922
SAVARY, WALTER BURGESS, Wareham, Mass. ....	1922
SAVIN, WILLIAM MORGAN, 52 Broadway, New York, N. Y. ....	1921
SAYLES, MISS DEBORAH WILCOX, 263 Hammond St., Chestnut Hill, Mass. ....	1928
SCHAEFER, OSCAR FREDERICK, 724 Woodbine St., Rochester, N. Y. ....	1916
SCHAFER, JOHN JACOB, R. R. 2, Port Byron, Ill. ....	1918
SCHANTZ, ORPHEUS MOYER, 3219 Maple Ave., Berwyn, Ill. ....	1919
SCHEAR, PROF. EDWARD WALDO EMERSON, 107 W. Park St., Westerville, Ohio ....	1922
SCHELL, JOHN WILLIS, 129 W. Sharpneck St., Mt. Airy, Philadelphia, Pa. ....	1923
SCHIERMANN, GOTTFRIED, Bergmannstrasse 104, Berlin S. W. 29, Germany ....	1928
SCHMIDT, EUGENE WILLIAM, 494 Church St., New Britain, Conn. ....	1927
SCHNEIDER, MRS. GEORGE HENRY, 4618 Kingswell Ave., Los Angeles, Calif. ....	1921
SCHOEDINGER, GEORGE RICHARD, JR., 78 Auburn Ave., Columbus, Ohio ....	1926
SCHONNEGEL, JULIAN ELIOT, 92 Morningside Ave. E., New York, N. Y. ....	1918
SCHORGER, ARLE WILLIAM, 2021 Kendall Ave., Madison, Wis. ....	1913
SCHRENCK, DR. HERMANN VON, Tower Grove and Flad Aves., St. Louis, Mo. ....	1919
SCHROEDER, MRS. ADELE PARROTT, White River, S. Dak. ....	1920
SCHWARZ, HERBERT FERLANDO, Am. Mus. Nat. Hist., New York, N. Y. ....	1925
SCHWARZ, HERMANN, 720 Clark Ave., Webster Groves, Mo. ....	1928
SCHWARZ, MAX DIEDRICH, 625 Tuxedo Blvd., Webster Groves, Mo. ....	1928
SCOATES, MRS. DAN, P. O. Box H, College Station, Texas. ....	1927
SCOFIELD, JOHN KENDRICK, 1511 30th St., N. W., Washington, D. C. ....	1927
SCOTT, CHARLES HENRY, JR., 1100 Provident Trust Bldg., Philadelphia, Pa. ....	1926
SCOVILLE, GURDON TRUMBULL, Dunbar Hall, Exeter, N. H. ....	1925
SCOVILLE, SAMUEL, JR., 1307 Penn Bldg., Philadelphia, Pa. ....	1916
SEARS, MISS ANNIE LYMAN, 85 Mt. Vernon St., Boston, Mass. ....	1924
SEARS, MRS. GEORGE GRAY, 426 Beacon St., Boston, Mass. ....	1922
SEELEY, GEORGE HENRY, Box 106, Stockbridge, Mass. ....	1920

SEFTON, JOSEPH WELLER, JR., 638 F St., San Diego, Calif. ....	1922
SEIPLE, STANLEY JULIUS, 293 Clinton St., Greenville, Pa. ....	1927
*SEMPLE, JOHN BONNER, Sewickley, Pa. ....	1924
*SERPELL, GOLDSBOROUGH, Seaboard Nat. Bank, Norfolk, Va. ....	1926
SERRILL, WILLIAM JONES, Haverford, Pa. ....	1916
SHADLE, ALBERT ROY, 143 University Ave., Buffalo, N. Y. ....	1928
SHANNON, WAYLAND EVANS, 1260 Talbot St., Jacksonville, Fla. ....	1929
SHAVER, PROF. JESSE MILTON, Peabody College, Nashville, Tenn. ....	1924
*SHAW, HENRY SOUTHWORTH, 136 High St., Exeter, N. H. ....	1916
SHAW, TSEN HWANG, Dept. Biol., Tsing Hua College, Peking, China. ....	1922
SHAW, DR. WILLIAM THOMAS, 1002 Cambridge Ave., Fresno, Calif. ....	1908
SHEA, PROF. DANIEL WILLIAM, Catholic Univ., Washington, D. C. ....	1917
SHEARER, DR. AMON R., Mont Belvieu, Chambers Co., Texas. ....	1905
SHEFFLER, WILLIAM JAMES, 4731 Angeles Vista Blvd., Los Angeles, Calif. ....	1928
SHELDON, HENRY ERNEST, 21 Norwood Ave., Norwalk, Ohio. ....	1926
SHELLEY, LEWIS ORMAN, P. O. Box 9, East Westmoreland, N. H. ....	1925
SHEPPARD, ROY WATSON, 493 John St., Niagara Falls, Ont., Can. ....	1928
SHERILL, WILLIAM ENOS, Haskell, Texas. ....	1922
SHERWOOD, JOHN WILLITS, P. O. Box 264, Salinas, Calif. ....	1929
SHERWOOD, ROBERT COVELL, 38 Vassar St., Springfield, Mass. ....	1921
SHIPMAN, CHARLES MELVILLE, 114 Ridge Road, Willoughby, Ohio. ....	1925
SHIRLEY, GARLAND LATIMER, Dayton, Va. ....	1927
SHOEMAKER, CLARENCE RAYMOND, 3116 P St., Washington, D. C. ....	1910
SHOEMAKER, HENRY WHARTON, Room 409, 71 Broadway, New York, N. Y. ....	1912
SHOFFNER, CHARLES PENNYPACKER, Elizabeth Manor, Apt. 302, Upper Darby, Pa. ....	1915
SHORE, ROBERT, Box 440, Indian Head, Sask., Can. ....	1927
SILLEM, DR. JOHN GOTTLIEB, Legation des Pays Bas, Via Piasello 15, Rome, Italy. ....	1928
SILLIMAN, OSCAR PERRY, c/o Mitchell-Silliman Co., Salinas, Calif. ....	1915
SIMONS, EDWARD ALEXANDER, 4 Lamboll St., Charleston, S. C. ....	1928
SIMONS, JOSEPH, 5555 Everett Ave., Chicago, Ill. ....	1929
SIMPSON, RALPH BERNARD, 128 Biddle St., Warren, Pa. ....	1928
SKEELE, HENRY BLODGET, 116 W. Gaston St., Savannah, Ga. ....	1926
SKILLEN, DONALD RALPH, 4111 Walnut St., Philadelphia, Pa. ....	1929
SKINNER, MILTON PHILO, Jergens Trust Bldg., Long Beach, Calif. ....	1916
SLADEN, MAJOR ALEXANDER GEORGE LAMBERT, Kingswood House, The Lee, Gt. Missenden, Bucks, England. ....	1927
SLAWSON, DR. EDWARD DOUGLASS, 708 N. Sheridan St., Bay City, Mich. ....	1921
SLOANAKER, PROF. JOSEPH LYDAY, 1117 W. Maxwell Ave., Spokane, Wash. ....	1923
SLOCUM, HARRY SPENCER, 4 Whitethorn Lane, Bluefield, W. Va. ....	1928
SLYFIELD, ARTHUR, 212 Court St., Oshawa, Ont., Can. ....	1928

SMALL, COL. WILLIAM MELVILLE, Headquarters U. S. Marine Corps, Washington, D. C.....	1924
SMILEY, ALBERT KEITH, JR., Mohonk Lake, Ulster Co., N. Y.....	1928
SMILEY, DANIEL, JR., Mohonk Lake, Ulster Co., N. Y.....	1928
SMITH, AUSTIN PAUL, Apt. 412, San Jose, Costa Rica.....	1911
SMITH, CHARLES PIPER, 354 S. 10th St., San Jose, Calif.....	1929
SMITH, EARL R., P. O. Box 641, New Orleans, La. ....	1924
SMITH, MISS EMILY, Route 1, Box 93, Los Gatos, Calif.....	1929
SMITH, MRS. FLORENCE, Box 145, Cincinnati, N. Y.....	1920
SMITH, PROF. FRANK, 79 Fayette St., Hillsdale, Mich.....	1909
SMITH, FRANK RUSH, Fredericktown, Pa.....	1926
SMITH, HERBERT ALLYN, Telephone Bldg., 22nd floor, 11th & Oak Sts., Kansas City, Mo.....	1928
SMITH, MRS. HERBERT WATSON, 86 S. Bay Ave., Islip, Suffolk Co., N. Y.....	1925
**SMITH, HORACE GARDNER, 2918 Lafayette St., Denver, Colo.....	1888
SMITH, HOWARD CLIFFORD, Rt. 1, Stafford Springs, Conn.....	1923
**SMITH, DR. HUGH McCORMICK, 1209 M St., N. W., Washington, D. C.....	1886
SMITH, JESSE LOW, 334 Vine Ave., Highland Park, Ill.....	1920
SMITH, LEWIS MACCUEEN, 218 W. Chelton Ave., Germantown, Philadelphia, Pa.....	1927
SMITH, LESTER WHEADON, Park Manor, Babson Park, Mass. ....	1916
SMITH, LUTHER ELY, 1554 Telephone Bldg., St. Louis, Mo. ....	1928
SMITH, NAPIER, Bank of Montreal, Verdun, Que., Can.....	1915
SMITH, REV. O(NNIE) WARREN, 120 Church St., Oconomowoc, Wis....	1924
SMITH, ROY HARMON, 183 N. Prospect St., Kent, Ohio .....	1922
SMITH, MRS. WALLIS CRAIG, 525 N. Mich. Ave., Saginaw, W. S., Mich.....	1916
SMITH, WENDELL PHILLIPS, Wells River, Vt.....	1919
SNOOKER, GEORGE DOUGLAS, Mt. Hope, St. Joseph, Trinidad, B. W. I.....	1926
SMYTH, ELLISON ADGER, JR., Rt. 2, Box 166, Salem, Va.....	1892
SMYTH, DR. THOMAS, State Teachers College, Indiana, Pa. ....	1921
SNOW, MISS GRACE MARION, 39 Forest St., Winchester, Mass.....	1922
SNYDER, MISS DOROTHY EASTMAN, 133 Columbus St., Elyria, Ohio ..	1923
SNYDER, WILL EDWIN, 309 DeClark St., Beaver Dam, Wis.....	1895
SOPER, JOSEPH DEWEY, N. W. Terr. & Yukon Br. Dept. Interior, Ottawa, Ont., Can. ....	1923
SOUTHARD, ROBERT HAMILTON, 486 Clifton Ave., Newark, N. J.....	1927
SPAULDING, MISS NINA GERTRUDE, Jaffrey, N. H.....	1922
SPEAR, JAMES, JR., Wallingford, Pa.....	1926
SPELMAN, HENRY MUNSON, 48 Brewster St., Cambridge, Mass. ....	1911
SPENCER, THOMAS, Brothersfield Estate, Tobago, B. W. I.....	1928
SPERRY, CHARLES CALVERT, Biological Survey, Washington, D. C....	1920
*SPINGARN, EDWARD DAVID WOODBERRY, Amenia, N. Y.....	1924
SPOFFORD, WALTER RICHARDSON, 2d, Highland Road, Berlin, Mass. ..	1927
SPRAGUE, ISAAC, Wellesley Hills, Mass.....	1920



SPROT, GEORGE DOVETON, R. M. D. Cobble Hill, Vancouver Island, B. C., Can.....	1923
SPRUANCE, WILLIAM CORBIT, 2507 W. 17th St., Wilmington, Del.....	1923
SPURGEON, GEORGE WRAY, JR., 200 Burns St., Forest Hills, L. I., N. Y.....	1929
SQUIRES, KARL, P. O. Box 1264, Miami, Fla.....	1927
STACK, PROF. JOSEPH WILLIAM, 1028 Chesterfield Parkway, East Lansing, Mich.....	1929
STANAKA, WILLIAM F., 1218 Crown Ave., Scranton, Pa.....	1927
STANFORD, DR. JOSEPH SEDLEY, Zool. Dept., Univ. Utah, Salt Lake City, Utah .....	1929
*STANLEY, DR. ARTHUR CAMP, The Farragut, Washington, D. C.....	1925
STEBBINS, FANNIE ADELL, Mittineague, Mass.....	1922
STEIN, GEORG, Post Pulverkrug, Kr. Westernberg, Reipzig, Germany..	1928
STEPHENSON, MRS. JESSE, Monte Vista, Colo.....	1918
STETSON, SERENO, 511 W. 113th St., New York, N. Y. ....	1923
STEVENSON, JAMES OSBORNE, 4213 Dundee Drive, Los Angeles, Calif..	1926
STEWART, JAMES BURCHARD, Roselle, N. J.....	1921
STEWART, PAUL ALVA, R. D. 1, Leetonia, Ohio.....	1928
STICKNEY, GARDNER PERRY, 864 Summit Ave., Milwaukee, Wis.....	1923
STILES, EDGAR CRANE, 345 Main St., West Haven, Conn. ....	1907
STONE, MRS. FRANCIS H., S. Dartmouth, Mass.....	1920
STONE, HARRY HERBERT, JR., Sturbridge, Mass.....	1919
STONE, ROBERT GREGG, 575 Boylston St., Brookline, Mass.....	1922
STONE, MRS. WITMER, 452 Church Lane, Germantown, Phila., Pa....	1920
STONEHAM, CAPT. HUGH FREDERIC, "Parknasilla," East Surrey Es- tates, Kitale Trans-Nzoia, Kenya Colony, Brit. East Africa..	1928
STONER, DR. DAYTON, U. S. Entomological Lab., Sanford, Fla.....	1922
STONER, EMERSON AUSTIN, Box 444, Benicia, Calif.....	1922
STORROW, MRS. EDWARD CABOT, South St., Needham, Mass. ....	1925
STOVER, MISS ESTHER ELLA, 1369 Brockley Ave., Lakewood, Ohio....	1929
STRABALA, LONY BALTHASAR, Box 129, Leetonia, Ohio.....	1925
STRATTON, MRS. GEORGE WOOLLEY, 518 Franklin Ave., Wilkinsburg, Pa.....	1920
STRECKER, JOHN KERN, Baylor University, Waco, Texas.....	1925
STREIT, RAYMOND E., 50 Broadway, New York, N. Y.....	1929
STRONG, WILLIAM ABNER, 247 Grand Ave., San Jose, Calif.....	1924
STUART, EDWARD TOBEY, JR., 2133 St. James Place, Philadelphia, Pa..	1925
STUBBS, ARTHUR PERCIVAL, 1 Addison Ave., Lynn, Mass. ....	1922
STURGE, MRS. EDGAR, 1620 Washington Ave., Scranton, Pa.....	1927
STURGIS, MRS. SAMUEL DAVIS, 2219 California St., N. W., Washington, D. C.....	1925
STURTEVANT, EDWARD, St. George's School, Newport, R. I.....	1896
SUGDEN, MRS. ARTHUR WALES, 2044 Garden St., Santa Barbara, Calif. ....	1929
SUGDEN, DR. JOHN WILLIAM, 527 Judge Bldg., Salt Lake City, Utah ..	1927
SULLIVAN, WALTER FRANCIS, 351 Turk St., San Francisco, Calif. ....	1924



SUMNER, EUSTACE LOWELL, JR., Mus. Vert. Zool., Berkeley, Calif. ....	1926
SUMNER, FRANCIS HOLLY, 760 University Ave., Palo Alto, Calif. ....	1928
SUTHARD, JAMES GREGORY, c/o Pure Oil Co., 117 W. Austin Ave., Chicago, Ill. ....	1923
SVIHLA, ARTHUR, Mus. Zool., Univ. Michigan, Ann Arbor, Mich. ....	1925
SWAIN, JOHN MERTON, 15 Pleasant St., Farmington, Maine. ....	1899
SWALES, MRS. BRADSHAW HALL, 2921 Albemarle St., Washington, D.C.	1928
SWANSON, GUSTAV ADOLPH, 3305 47th Ave. S., Minneapolis, Minn. ...	1928
SWEDENBORG, ERNIE DAVID, 4905 S. Vincent Ave., Minneapolis, Minn.	1927
SWOPE, DR. EUGENE, Roosevelt Bird Sanctuary, Oyster Bay, N. Y. ....	1921
TABER, WILLIAM BREWSTER, JR., Greenwood Farm, Kansas, Ill. ....	1924
TALBOT, LESTER RAYMOND, 8 Rustic Road, Melrose Highlands, Mass. ...	1920
TATNALL, SAMUEL ALSOP, 503 Hansberry St., Philadelphia, Pa. ....	1916
TAVERNER, MISS IDA CLARE, 45 Leonard Ave., Ottawa, Ont., Can. ...	1926
TAVISTOCK, MARQUIS OF, Warblington House, Havant, Hants, England ....	1928
TAYLOR, ALEXANDER R., Cayce, S. C. ....	1907
TAYLOR, HORACE, 5 Brattle Sq., Cambridge, Mass. ....	1917
TAYLOR, HUGH LYMAN, Children's Museum, Newport, R. I. ....	1927
TAYLOR, LAURENCE H., 135 Main St., Williamstown, Mass. ....	1928
TAYLOR, LEWIS WALTER, Poultry Div., College Agriculture, Berkeley, Calif. ....	1925
TAYLOR, LIONEL EDWARD, R. R. 1, Saanichton, B. C., Can. ....	1913
TAYLOR, DR. WALTER PENN, 1746 E. 5th St., Tucson, Ariz. ....	1916
TAYLOR, WARNER, 619 N. Frances St., Madison, Wis. ....	1916
TEACHENOR, DIX, 1020 W. 61st St., Kansas City, Mo. ....	1919
TEE-VAN, JOHN, N. Y. Zool. Park, New York, N. Y. ....	1921
TERRILL, LEWIS McIVER, 24 Prince Arthur St., St. Lambert, Que., Can. ....	1907
TERRY, DR. ROBERT JAMES, 224 North Newstead Ave., St. Louis, Mo. ...	1919
TEST, PROF. LOUIS AGASSIZ, 511 Russell St., West Lafayette, Ind. ....	1929
THABES, MRS. JOHN ALOIS, SR., 417 Holly St., Brainerd, Minn. ....	1920
THACKER, THOMAS LINDSAY, Hope, B. C., Can. ....	1928
THOMAS, EDWARD SINCLAIR, 1116 Madison Ave., Columbus, Ohio ...	1922
THOMAS, DR. HALL H., 211 Charles Bldg., Denver, Colo. ....	1929
THOMAS, R. M., 298 Garry St., Winnipeg, Man., Can. ....	1922
THOMPSON, JOHN WALCOTT, 527 East First South St., Salt Lake City, Utah ....	1916
THOMPSON, LOVELL, 100 Chestnut St., Boston, Mass. ....	1923
*THORNE, MRS. WILLIAM VAN SCHOONHOVEN, 810 5th Ave., New York, N. Y. ....	1925
THOWLESS, HERBERT LANDO, 765 Broad St., Newark, N. J. ....	1919
TIJMSTRA, GERHARDUS JACOBUS, Daal en Bergschelaan 68, the Hague, Holland ....	1929
TILLISCH, MISS MARY AGNES, 3205 17th Ave., S., Minneapolis, Minn. ...	1922
TILNEY, MISS MARY GARNER, Tranquillity, Route 2, Mobile, Ala. ....	1929

TINDALL, CHARLES WALTER, 912 N. Noland St., Independence, Mo. . .	1919
TINKER, ALMERIN DAVID, 519 Oswego St., Ann Arbor, Mich. . . . .	1907
TINKER, EDWARD RICHMOND, 711 5th Ave., New York, N. Y. . . . .	1929
TINKHAM, ERNEST ROBERT, P. O. Box 111, Presidio, Texas . . . . .	1929
TOLFREE, EDWARD ROGERS, 25 W. 45th St., New York, N. Y. . . . .	1921
TOLMAN, RINKE, Nieuwe Weg 115, Loest, Holland . . . . .	1928
TOMLIN, DR. FRANCIS HENRY, Haddonfield, N. J. . . . .	1927
TOMLINSON, IRVING CLINTON, 137 Marlborough St., Boston, Mass. . .	1920
TOMLINSON, MRS. SUSIE, 506 Newport Ave., Long Beach, Calif. . . . .	1929
*TORREY, DR. HENRY NORTON, 575 Lake Shore Road, Grosse Pointe, Detroit, Mich. . . . .	1927
TOWNE, DR. SOLON RODNEY, 1502 N. 54th St., Omaha, Nebr. . . . .	1919
TOWNSHEND, HENRY HOTCHKISS, 35 Hillhouse Ave., New Haven, Conn. . . . .	1915
TRAEGER, JOHN HECKEWELDER, 79 W. Market St., Bethlehem, Pa. . .	1926
TRAUTMAN, MILTON BERNHARD, 618 S. 5th St., Columbus, Ohio. . . . .	1924
TREGANZA, ALBERTO OWEN, P. O. Box 104, Lemon Grove, San Diego Co., Calif. . . . .	1906
TRESCOT, ED. BOCQUET, Rt. 4, Box 357, Petaluma, Calif. . . . .	1924
TREVOR, FRANK WILSON, 132 Delaware St., Syracuse, N. Y. . . . .	1928
TROTTER, WILLIAM HENRY, 36 N. Front St., Philadelphia, Pa. . . . .	1899
TRUESDELL, JOHN FESSENDEN, 6310 Franklin Circle, Hollywood, Calif.	1918
TUCKER, CARLL, 733 Park Ave., New York, N. Y. . . . .	1929
*TUCKER, MRS. CARLL, 733 Park Ave., New York, N. Y. . . . .	1924
TUCKER, MRS. EVERETT BRACKIN, c/o Arkansas College, Batesville, Ark. . . . .	1927
TUFTS, ROBIE WILFRID, Wolfville, Nova Scotia, Can. . . . .	1919
TURNBULL, JAMES DOUGLAS, 2065 48th Ave., W. Vancouver, B. C., Can. . . . .	1927
TURNBULL, WILLIAM, Far Hills, New Jersey . . . . .	1929
TURRELL, LORING WATSON, Smithtown Branch, L. I., N. Y. . . . .	1927
TURTLE, LANCELOT JAMES, Rosemont, Knock, Belfast, Ireland. . . . .	1928
TUTTLE, HENRY EMERSON, 87 Trumbull St., New Haven, Conn. . . . .	1909
TUTTLE, NORRIS, County Line Road, Bryn Mawr, Pa. . . . .	1926
TWITCHELL, ADAMS HOLLIS, Flat, Alaska . . . . .	1918
TYLER, JOHN GRIPPER, Box 173, Fresno, Calif. . . . .	1912
TYRRELL, W. BRYANT, Bloomfield Hills School, Lone Pine Road, Birmingham, Mich. . . . .	1922
UHLER, FRANCIS MOREY, Biol. Survey, Dept. Agr., Washington, D. C.	1924
*UNDERDOWN, CHARLES ELIOT, 8216 Manor Road, Elkins Park, Pa. . .	1923
*UNDERDOWN, HENRY TENER, 4601 Market St., Philadelphia, Pa. . . .	1921
UNGLISH, WILLIAM ELMER, 345 N. Rosanna St., Gilroy, Calif. . . . .	1924
URNER, CHARLES ANDERSON, 596 Westminster Ave., Elizabeth, N. J. .	1920
VAN BRUNT, MISS CARRIE, 212 Gates Ave., Brooklyn, N. Y. . . . .	1925
VAN DER BRINK, FREDERICK HENDRIK, 19 Dillenburgerstraat, Utrecht, Holland . . . . .	1928

VANDERLIP, FRANK ARTHUR, Palos Verdes Estates, Orange Co., Calif.	1929
VAN HEYST, AUGUST FLORIS CHARLES ANDRÉ, "Marienhoven," Wyk by Duurstede, Holland	1928
VAN HYNING, DR. THOMPSON, State Museum, Univ. Florida, Gaines- ville, Fla.	1926
VAN MARLE, JOHANN GOTTLIEB, Beethovenstraat 65, Amsterdam, Holland	1928
VAN NAME, WILLARD GIBBS, Am. Mus. Nat. Hist., New York, N. Y.	1900
VAN SCHAIK, DR. JOHN, JR., 176 Newbury St., Boston, Mass.	1926
VAN TIENHOVEN, DR. PIETER GERBRAND, c/o Nederlandse Vereenig- ing tot Bescherming van Vogels, Heerengracht 540, Amster- dam, Holland	1928
VAN TYNE, CLAUDE HALSTEAD, II, 1942 Cambridge Road, Ann Arbor, Mich.	1925
VARDELL, PROF. CHARLES GRAVES, JR., Salem College, Winston-Salem, N. C.	1929
VARLEY, JAMES ARTHUR, 99 Glencairn Ave., Toronto, Ont., Can.	1926
VERNON, JOHN, R. R. 1, Box 264, S. Sheridan Road, Kenosha, Wis.	1929
VERWEY, JAN, Laboratory for Research of the Sea, Batavia, Dutch East Indies	1928
VESTAL, MRS. ROBERT, 1803 Lake Ave., Knoxville, Tenn.	1927
VETTER, DR. CHARLES, 18 East 48th St., New York, N. Y.	1898
VOGT, WILLIAM, 1 Pinecrest Drive, Hastings-on-Hudson, N. Y.	1928
VON BLOEKER, KARL H., Rt. 1, Box 295C, Gardena, Calif.	1926
VORHIES, DR. CHARLES TAYLOR, Univ. Ariz., Tucson, Ariz.	1918
VOSBURG, PAUL SPRAGUE, Room 263, City Hall, Philadelphia, Pa.	1927
WADE, JOSEPH SANFORD, Bur. Entomology, Dept. Agriculture, Wash- ington, D. C.	1929
WALCOTT, CHARLES FOLSOM, 77 Sparks St., Cambridge, Mass.	1923
*WALCOTT, HON. FREDERIC COLLIN, 2300 S St. N. W., Washington, D. C.	1921
WALCOTT, JUDGE ROBERT, 910 Barrister's Hall, Boston, Mass.	1924
WALKER, CHARLES FREDERIC, 53 Latta Ave., Columbus, Ohio	1927
WALKER, MISS ELIZABETH F. L., 2131 Spruce St., Philadelphia, Pa.	1929
WALKER, ERNEST PILLSBURY, 114 Maple Ave., Takoma Park, Wash- ington, D. C.	1918
WALKER, GEORGE RAYMOND, R. D. 3, Murray, Utah	1909
WALKER, LEWIS WAYNE, Douglas Manor, Douglaston, L. I., N. Y.	1925
WALKER, ROLAND, Osborn Zool. Lab., Yale Station, New Haven, Conn.	1924
WALKINSHAW, DR. LAWRENCE HARVEY, 1421 W. Michigan Ave., Battle Creek, Mich.	1929
WALLER, LITTLETON WALLER TAZEWEEL, JR., 5056 du Pont Bldg., Wilmington, Del.	1928
WALLIS, JOSIAH KENDALL, 132 Holder Hall, Princeton, N. J.	1926
WALP, RUSSELL LEE, Beard's Lane, Route 3, Youngstown, Ohio	1925
WALSH, LESTER LEWIS, 11 Walthery Ave., Ridgewood, N. J.	1925

- WALTER, DR. HERBERT EUGENE, 67 Oriole Ave., Providence, R. I. . . . . 1901  
 WALTERS, FRANK, 512 Grand Central Palace, New York, N. Y. . . . . 1902  
 WANLESS, JOHN, 243 Yonge St., Toronto 2, Ont., Can. . . . . 1928  
 WARD, FRANK HOWLEY, 18 Grove Place, Rochester, N. Y. . . . . 1908  
 WARD, HENRY LEVI, Kent Scientific Museum, Grand Rapids, Mich. . . . . 1906  
 WARREN, GEORGE COPP, 253 Kent St., Brookline, Mass. . . . . 1924  
 WARRINGTON, HENRY, Jackson, Amador Co., Calif. . . . . 1927  
 WATSON, ARTHUR TILLEY, 1301 West 10th St., Des Moines, Iowa . . . . . 1929  
 WATSON, CHARLES GRAY, 201 Ridout St. S., London, Ont., Can. . . . . 1919  
 WATTERSON, WILLIAM HERBERT, 2662 East 130th St., Cleveland, Ohio. 1927  
 WEBER, ALOIS JOHN, 904 Grand Ave., Keokuk, Iowa . . . . . 1928  
 WEBER, JAY ANTHONY, 151 Grand Ave., Leonia, N. J. . . . . 1907  
 WEBER, WALTER ALOIS, Field Museum Nat. Hist., Chicago, Ill. . . . . 1928  
 WEBSTER, MRS. JENNIE ELLIS BURDICK, 468 4th Ave., New York,  
 N. Y. . . . . 1917  
 WEED, CLARENCE MOORES, State Normal School, Lowell, Mass. . . . . 1924  
 WEISER, CHARLES SPANGLER, 105 W. Springettsbury Ave., York, Pa. 1916  
 WELDON, MRS. JOHN HASLER, Masonville Road, Loveland, Colo. . . . . 1926  
 \*WELLING, YENS M., Rt. 4, Anderson, Ind. . . . . 1924  
 \*WELLMAN, GORDON BOIT, 17 Midland R'd, Wellesley, Mass. . . . . 1908  
 WELLS, MISS CAROLINE, 328 E. Pine St., Missoula, Mont. . . . . 1920  
 WENDLE, MRS. JOSEPH, Bowron Lake, Barkerville, B. C., Can. . . . . 1927  
 WESTON, FRANCIS MARION, U. S. Naval Air Station, Pensacola, Fla. . . . . 1925  
 WETHERBEE, MRS. KENNETH BRACKETT, 11 Dallas St., Worcester,  
 Mass. . . . . 1929  
 WEYDEMAYER, WINTON, Fortine, Mont. . . . . 1925  
 WEYGANDT, DR. CORNELIUS, 6635 Wissahickon Ave., Phila., Pa. . . . . 1907  
 WETL, EDWARD STERN, 6506 Lincoln Drive, Mt. Airy, Phila., Pa. . . . . 1921  
 \*WHARTON, WILLIAM PICKMAN, Groton, Mass. . . . . 1907  
 WHEELER, REV. HARRY EDGAR, Museum Dept., Public Library, Bir-  
 mingham, Ala. . . . . 1923  
 WHEELER, STAFFORD MANCHESTER, Westport Harbor, Mass. . . . . 1928  
 WHITAKER, INNESS, 490 West End Ave., New York, N. Y. . . . . 1926  
 WHITAKER, JAMES DAVIES, 683 Atlantic Ave., Boston, Mass. . . . . 1924  
 WHITAKER, JAMES L., Cedar Grove, Olney, Philadelphia, Pa. . . . . 1927  
 WHITE, ALFRED FISHER, 1745 Waverley St., Palo Alto, Calif. . . . . 1926  
 WHITE, EDWARD FRANCIS GEOFFREY, 185 Wurtemburg St., Ottawa,  
 Can. . . . . 1927  
 \*WHITE, GEO. WHITNEY, Nat. Metropolitan Bank, Washington, D. C. 1924  
 WHITE, JAMES SAMUEL, 1114 Ardmore Ave., Chicago, Ill. . . . . 1928  
 WHITE, WILLIAM FOSTER, 50 Broadway, New York, N. Y. . . . . 1923  
 WHITLEY, HERBERT, Primley, Paignton, S. Devon, England. . . . . 1928  
 WHITNEY, PROF. ALVIN GOODNOW, Asst. Director N. Y. State Mus.,  
 Albany, N. Y. . . . . 1925  
 WHITNEY, HOWARD, 45 East St., Hartford, Conn. . . . . 1921  
 WHITTAKER, CARTER READE, Am. Consulate, Yokohama, Japan . . . . . 1928

WHITTLE, CHARLES LIVY, River Crossroads, Peterboro, N. H.....	1916
*WHITTLE, MRS. HELEN GRANGER, River Crossroads, Peterboro, N. H.....	1904
WICKS, MRS. JUDSON LANE, 1911 Pillsbury Ave., Minneapolis, Minn.....	1922
WIEGMANN, DR. WILLIAM HENRY, 436 E. 5th St., New York, N. Y.....	1916
*WIGGLESWORTH, DR. EDWARD, Boston Soc. Nat. Hist., Boston, Mass.....	1920
WILBUR, ADDISON PRENTISS, 60 Gibson St., Canandaigua, N. Y.....	1895
WILCOX, LEROY, Speonk, L. I., N. Y.....	1927
WILCOX, THOMAS FERDINAND, 118 E. 54th St., New York, N. Y.....	1895
WILDER, GEORGE DURAND, Route 5, Pen Yan, N. Y.....	1929
WILDMAN, EDWARD EMBREE, 4331 Osage Ave., Philadelphia, Pa.....	1923
WILEY, MISS FARIDA ANNA, Cor. Prospect Ave. & Willow St., Doug- laston, L. I., N. Y.....	1925
WILKINSON, ALEXANDER STANLEY, Kapiti Island Bird Sanctuary, Paraparamon P. O., North Island, via Wellington, New Zea- land .....	1929
WILLARD, BERTEL GLIDDEN, 51 Fresh Pond Parkway, Cambridge, Mass.....	1906
WILLARD, OSCAR THEODORE, 5343 Blackstone Ave., Chicago, Ill.....	1919
WILCOX, DR. MARY ALICE, 63 Oakwood Road, Newtonville 60, Mass.....	1913
WILLIAMS, ELLISON ADGER, 27 Limehouse St., Charleston, S. C.....	1923
WILLIAMS, LAIDLAW ONDERDONK, 8 Greenholm St., Princeton, N. J.....	1919
**WILLIAMS, ROBERT STATHAM, Botanical Gardens, Bronx, New York, N. Y.....	1888
WILLIAMS, ROLAND, 163 Bertling Lane, Winnetka, Ill.....	1925
WILLIAMS, MRS. SYDNEY MFSSER, Pond Road, Wellesley 81, Mass.....	1928
WILLIAMSON, EDWARD BRUCE, 419 W. Market St., Bluffton, Ind.....	1900
WILLIS, WARREN JENNISON, 24824 89th Ave., Bellerose, N. Y.....	1923
WILSON, MRS. ETTA SMITH, 9077 Clarendon Ave., Detroit, Mich.....	1917
WILSON, DR. FRANK NORMAN, 804 Lawrence St., Ann Arbor, Mich.....	1922
WILSON, GORDON, 1434 Chestnut St., Bowling Green, Ky.....	1919
WILSON, HAROLD CHARLES, Ephraim, Wis.....	1924
WINANT, ALBERT, 194 Maple Ave., Great Barrington, Mass.....	1922
WINECOFF, DR. THOMAS EDWARD, Director Research, State Game Com., Harrisburg, Pa.....	1926
WINECOFF, MRS. THOMAS EDWARD, 226 Maclay St., Harrisburg, Pa.....	1929
WING, GEORGE STUART, Rt. 3, Jackson, Michigan.....	1924
WING, LEONARD W., Cooper Street Road, Route 3, Jackson, Mich.....	1929
WINGARD, TOD ALBERT, 1173 Say Ave., Columbus, Ohio.....	1918
WINSON, JOHN WILLIAM, Huntingdon, B. C., Can.....	1928
WITHEY, GEORGE ALEXANDER, L. Box 33, Antler, N. Dak.....	1927
WOLFE, CAPT. L. R., Fort Warren, Cheyenne, Wyoming.....	1922
WOLSTENHOLME, HARRY, "Maybanke," Junction Road, Wahroonga, Sydney, Australia .....	1928
WOOD, ALLEN HOWLAND, JR., 178 Tremont St., Boston, Mass.....	1923
WOOD, DR. CLIFFORD HARVEY, 656 N. Vista Bonita, Glendora, Calif.....	1924



WOOD, DR. HAROLD BACON, 3016 North 2nd St., Harrisburg, Pa.....	1929
WOOD, JAMES HARRY, Mus Zool., Univ. Michigan, Ann Arbor, Mich..	1929
WOOD, MERRILL, 3016 North 2nd St., Harrisburg, Pa. ....	1927
WOODHULL, DR. MAURICE WELSH, Cottonwood Falls, Chase Co., Kans.....	1928
WOODS, HARRY EARLE, P. O. Box 216, Huntington, Mass.....	1924
WOODS, LESLIE, 5907 Greene St., Germantown, Philadelphia, Pa. ....	1929
*WOODS, ROBERT S., Box 356, Azusa, Los Angeles Co., Calif.....	1926
WOODWARD, DR. LEMUEL FOX, State St., Worcester, Mass.....	1917
WOOLMAN, MISS ANNA, 21 N. Highland Ave., Lansdowne, Pa.....	1920
WOOLMAN, EDWARD, Box 128, Haverford, Pa. ....	1925
WOOLSTON, WILLIAM JENKS, W. Chestnut Ave., Chestnut Hill, Phila- delphia, Pa. ....	1925
WORCESTER, MRS. ALFRED, 314 Bacon St., Waltham, Mass.....	1905
WORKMAN, WILLIAM HUGHES, Lismore, Windsor Ave., Belfast, Ireland	1928
WORTH, C[HALES] BROOKE, St. David's Ave., St. Davids, Pa.....	1927
WRIGHT, FRANK SMITH, 14 Cayuga St., Auburn, N. Y.....	1917
*WRIGHT, GEORGE MELENDEZ, 405 Am. Trust Bldg., Berkeley, Calif..	1927
WYTHE, MISS MARGARET WILHELMINA, Mus. Vert. Zool., Univ. Calif., Berkeley, Calif.....	1924
*YAMASHINA, MARQUIS YOSHIMARO, 49 Nanpeidai, Shibuya-machi, near Tokyo, Japan.....	1927
YEATLER, RALPH EMERSON, Colon, Mich.....	1926
YODER, WILLIAM HENRY, JR., 4510 N. Carlisle St., Philadelphia, Pa...	1923
YOUNG, REV. CHARLES JOHN, 3636 Point Grey Road, Vancouver, B. C., Can. ....	1918
YOUNG, FREDERICK CARYL, Box 201, Palmyra, N. J.....	1927
YOUNG, JOHN PAUL, Ithaca, N. Y.....	1911
YOUNG, WALLACE PARK, 203 Fern Ave., Toronto, Ont., Can.....	1925
ZAMBA, COMM. RAG. VITTORIO, Corso Umberto I, 49, Rome, Italy.....	1928
ZELENY, LAWRENCE, 613 East River Road, Minneapolis, Minn. ....	1924
ZERLANG, LAWRENCE, 524 W. Hawthorne St., Eureka, Calif.....	1925
ZIMMERMAN, HAROLD ALEXANDER, 1403 W. Jackson St., Muncie, Ind..	1929

DECEASED MEMBERS.<sup>1</sup>

(List published at intervals of 5 years; last publication in 1925.)

## FELLOWS.

ALDRICH, CHARLES, '09, 218; '10, 119-124, por.....	March 8, 1908
ALLEN, JOEL ASAPH, * '21, 490-492; '22, 1-14, por.....	Aug. 29, 1921
BAIRD, SPENCER FULLERTON, '87, 273, por., 358-359; '88, 1-14.	Aug. 19, 1887
BARROWS, WALTER BRADFORD, '23, 376-377; '25, 1-14 por...	Feb. 26, 1923
BEAL, FOSTER ELLENBOROUGH LASCELLES, '17, 243-264, por.	Oct. 1, 1916

<sup>1</sup> Figures immediately following names indicate references to biographical sketches in 'The Auk' or in a few cases to other publications. An asterisk (\*) indicates a former President of the Union.

*Deceased Members.*

lxvii

BENDIRE, CHARLES EMIL, '97, 253; '98, 1-6, por.....	Feb. 4, 1897
BICKNELL, EUGENE PINTARD, '25, 475-476; '26, 143-149, por..	Feb. 9, 1925
BREWSTER, WILLIAM, * '19, 628; '20, 1-23, por.....	July 11, 1919
COOKE, WELLS WOODBRIDGE, '16, 354-355; '17, 119-132, por..	Mar. 30, 1916
CORY, CHARLES BARNEY, * '21, 492-493; '22, 151-166, por...	July 31, 1921
COUES, ELLIOTT, * '00, 91; '01, 1-11, por.....	Dec. 25, 1899
DUTCHER, WILLIAM, '20, 636; '21, 501-513, por.....	July 1, 1920
DWIGHT, JONATHAN, * '29, 279; '30, 1-6, por.....	Feb. 22, 1929
ELLIOT, DANIEL GIRAUD, * '16, 230-231; '17, 1-10, por.....	Dec. 22, 1915
FORBUSH, EDWARD HOWE, '29, 279-280.....	Mar. 7, 1929
FUERTES, LOUIS AGASSIZ, '27, 594; '28, 1-26, por.....	Aug. 22, 1927
GOSS, NATHANIEL STICKNEY, '91, 245-247.....	March 10, 1891
HOLDER, JOSEPH BASSETT, '88, 220.....	Feb. 28, 1888
JEFFRIES, JOHN AMORY, '92, 311-312.....	March 26, 1892
LOOMIS, LEVERETT MILLS, '28, 263-264; '29, 1-13, por....	Jan. 12, 1928
McILWRAITH, THOMAS, '03, 242; '04, 1-7, por.....	Jan. 31, 1903
MEARNS, EDGAR ALEXANDER, '17, 113; '18, 1-18, por.....	Nov. 1, 1916
MERRILL, JAMES CUSHING, '03, 90-91; '10, 113-119, por....	Oct. 27, 1902
MILLER, WALDRON DEWITT, '29, 577-578.....	Aug. 7, 1929
NEHRLING, HENRY, '30, 133.....	Nov. 22, 1929
PALMER, WILLIAM, '21, 493-494; '22, 305-321, por.....	April 8, 1921
PURDIE, HENRY AUGUSTUS, '11, 387; '12, 1-15, por.....	March 29, 1911
RIDGWAY, ROBERT, * '29, 280-281.....	March 25, 1929
SAGE, JOHN HALL, * '25, 613-615; '26, 1-17, por.....	Aug. 16, 1925
SENNETT, GEORGE BURRITT, '00, 193; '01, 11-23, por.....	March 18, 1900
TRUMBULL, GURDON, '04, 310.....	Dec. 28, 1903
WHEATON, JOHN MAYNARD, '87, 174.....	Jan. 28, 1887

RETIRED FELLOWS.

BELDING, LYMAN, '20, 33-45, por.....	Nov. 22, 1917
GILL, THEODORE NICHOLAS, '15, 139-140, 391-405, por.....	Sept. 25, 1914
LAWRENCE, NEWBOLD TROTTER, '30, 7-10, por.....	Aug. 14, 1928
LUCAS, FREDERIC AUGUSTUS, '29, 281-282.....	Feb. 9, 1929

HONORARY FELLOWS.

BARBOZA DU BOCAGE, JOSÉ VICENTE, '08, 496-497.....	Nov. 3, 1907
BERLEPSCH, HANS [CARL HERMANN LUDWIG], '15, 539.....	Feb. 27, 1915
BLANFORD, WILLIAM THOMAS, '07, 118-119.....	June 23, 1905
BURMEISTER, KARL HERMANN KONRAD, '92, 399-400.....	May 1, 1892
CABANIS, JEAN LOUIS, '06, 247.....	Feb. 20, 1906
CAMPBELL, ARCHIBALD JAMES, '30, 133.....	Sept. 12, 1929
DRESSER, HENRY EELES, '16, 232.....	Nov. 28, 1915
DUBOIS, ALPHONSE JOSEPH CHARLES, '27, 157-158.....	June 1, 1921
FINSCH, FRIEDRICH HERMANN OTTO, '18, 381-382.....	Jan. 31, 1917
FURBRINGER, MAX, '22, 591.....	March 6, 1920
GADOW, HANS FRIEDRICH, '28, 538-539.....	May 16, 1928

GÄTKE, HEINRICH, '97, 254.....	Jan. 1, 1897
GIGLIOLI, ENRICO HILLYER, '10, 240, 484-485.....	Dec. 16, 1909
GODMAN, FREDERICK DuCANE, '19, 319.....	Feb. 19, 1919
GUNDLACH, JOHANNES CHRISTOFER, '96, 267.....	March 17, 1896
GURNEY, JOHN HENRY, '90, 299-300.....	April 20, 1890
GURNEY, JOHN HENRY, JR., '23, 718-719.....	Nov. 15, 1922
HARTLAUB, [KARL JOHANN] GUSTAV, '01, 219.....	Nov. 20, 1900
HARVIE-BROWN, JOHN ALEXANDER, '16, 458.....	July 26, 1916
HUME, ALLAN OCTAVIAN, '27, 473-474.....	July 31, 1912
HUXLEY, THOMAS HENRY, '95, 316; '96, 93-96.....	June 29, 1895
KRAUS, FERDINAND, '91, 120.....	Sept. 15, 1890
LAWRENCE, GEORGE NEWBOLD, '95, 198-199; '96, 1-10, por.....	Jan. 17, 1895
MEYER, ADOLF BERNHARD, '11, 519.....	Feb. 5, 1911
MILNE-EDWARDS, ALPHONSE, '00, 320-321.....	April 21, 1900
NEWTON, ALFRED, '07, 365-366.....	June 7, 1907
PARKER, WILLIAM KITCHEN, '90, 411-412.....	July 3, 1890
PELZELN, AUGUST VON, '91, 400; '92, 74-75.....	Sept. 2, 1891
SALVADORI PALEOTTI, ADELARDO TOMMASO, '24, 384-385.....	Oct. 9, 1923
SALVIN, OSBERT, '98, 286, 343-345.....	June 1, 1898
SAUNDERS, HOWARD, '08, 103-104.....	Oct. 20, 1907
SCHALOW, HERMAN, '26, 412-413.....	Dec. 9, 1925
SCHLEGEL, HERMANN, '84, 205-206.....	Jan. 17, 1884
SLATER, PHILIP LUTLEY, '14, 1-12, por.....	June 27, 1913
SEEBOHM, HENRY, '96, 96-97.....	Nov. 26, 1895
SHARPE, RICHARD BOWDLER, '10, 124-129, por.....	Dec. 25, 1909
SUSHKIN, PETER PETROVICH, '29, 149.....	Sept. 17, 1928
TACZANOWSKI, LADISLAS [CASIMIROVICH], '90, 218.....	Jan. 17, 1890
WALLACE, ALFRED RUSSEL, '14, 138-141.....	Nov. 7, 1913

CORRESPONDING FELLOWS.<sup>1</sup>

ALPHERAKY, SERGIUS NIKOLAEVICH, '21, 495.....	1918
ALTUM, JOHANN BERNARD THEODOR, Orn. Monatsber., 1900, 49-54	
	Feb. 1, 1900
ANDERSON, JOHN, '02, 118.....	Aug. 15, 1900
BAILEY, HARRY BALCH, '28, 264-265; '29, 155-160, por.....	Feb. 10, 1928
BALDAMUS, AUGUSTE KARL EDUARD, '95, 94-95.....	Oct. 30, 1893
BEDDARD, FRANK EVERS, '26, 413.....	July 14, 1925
BIANCHI, VALENTIN LvOVICH, '21, 497-498.....	Jan. 10, 1920
BLAKISTON, THOMAS WRIGHT, '92, 75.....	Oct. 15, 1891
BLASIUS, [PAUL HEINRICH] RUDOLPH, '08, 248.....	Sept. 21, 1907
BLASIUS, WILHELM AUGUST HEINRICH, '12, 571.....	May 31, 1912
BOGDANOW, MODEST NIKOLAEVICH, '88, 333-334.....	March 16, 1888
BONHOTE, JOHN LEWIS JAMES, '23, 720-721.....	Oct. 10, 1922
BROOKS, WILLIAM EDWIN, '00, 194.....	Jan. 18, 1899

<sup>1</sup> Brasil, Louis, '19, 449.....Oct. 15, 1918.  
Nominated and elected Nov. 11, 1918, before notice of his death was received.

BRYANT, WALTER [PIERC] E., '05, 332, 439-441; '06, 376.	May 21, 1905
BULLER, WALTER LAWRY, '07, 119.	July 19, 1906
BUTLER, ARTHUR GARDINER, '25, 615-616.	May 28, 1925
BUTLER, EDWARD ARTHUR, '17, 114.	April 16, 1916
BUTTIKOFER, JOHANNES, '28, 418-419.	June 24, 1927
CHAMBERLAIN, MONTAGUE, '24, 643-644.	Feb. 10, 1924
CHAPMAN, ABEL, '29, 286-287.	Jan. 24, 1929
CHROSTOWSKI, TADEUSZ, '25, 476-478.	April 4, 1923
CHUBB, CHARLES, '24, 646-647.	June 25, 1924
COLLETT, ROBERT, '13, 318.	Jan. 27, 1913
COOPER, JAMES GRAHAM, '02, 421-422.	July 19, 1902
CORDEAUX, JOHN, '99, 377-378.	Aug. 1, 1899
DALGLEISH, JOHN JAMES, '30, p. 305.	Dec. 29, 1921
DAVID, ARMAND, '02, 118-119.	Nov. 10, 1900
DOLE, SANFORD BALLARD, '27, 160-161.	June 9, 1926
DUGES, ALFREDO, '12, 434.	Jan. 7, 1910
ECHT, EDUARD BACHOFEN VON, '23, 721.	May 22, 1922
ELWES, HENRY JOHN, '27, 159-160.	Nov. 26, 1922
FATIO, VICTOR, '06, 356, 484-485.	March 19, 1906
FEILDEN, HENRY WEMYSS, '21, 496.	June 18, 1921
FORBES, STEPHEN ALFRED.	Mar. 13, 1930
GIRTANNER, GEORG ALBERT, Jahrb. St. Gall. Naturwiss. Ges., '07, 122-133, por.	June 4, 1907
GODWIN-AUSTEN, HENRY HAVERSHAM, '24, 512-513.	Dec. 2, 1923
GOELDI, EMIL AUGUST, '17, 510.	July 5, 1917
GRANDIDIER, ALFRED, '22, 453.	Sept. 13, 1921
HAAST, JOHANN FRANZ JULIUS VON, '26, 576-577.	Aug. 16, 1887
HARGITT, EDWARD, '95, 315.	March 19, 1895
HARTING, JAMES EDMUND, '28, 265-266.	Jan. 16, 1928
HAYEK, GUSTAV EDLER VON, '11, 388.	Jan. 9, 1911
HERMAN, OTTO, '15, 539-540, por.	Dec. 27, 1914
HOLUB, EMIL, '03, 92.	Feb. 21, 1902
HOMEYER, EUGEN FERDINAND VON, '89, 341.	May 31, 1889
HUDSON, WILLIAM HENRY, '23, 719-720.	Aug. 18, 1922
IHERING, HERMANN VON.	Feb. 24, 1930
KNUDSEN, VALDEMAR, '13, 159.	Jan. 8, 1898
KRUENBERG, CARL FRIEDRICH WILHELM.	Feb. 18, 1889
KRUPER, THEOBALD JOHANNES, '22, 148-149.	March 23, 1921
LAYARD, EDGAR LEOPOLD, '00, 321-322.	Jan. 1, 1900
LEACH, JOHN ALBERT, '30, 134.	Oct. 3, 1929
LEGGE, WILLIAM VINCENT, '18, 510-511.	March 25, 1918
LE SOUËF, WILLIAM HENRY DUDLEY, '24, 385-386.	Sept. 6, 1923
LEVERKÜHN, PAUL, '06, 247.	Dec. 5, 1905
LILFORD, LORD (THOMAS LYTTLETON POWYS), '96, 348.	June 17, 1896
MALMGREN, ANDERS JOHAN, '98, 79, 214-215.	April 12, 1897
MARSHALL, AUGUST FRIEDRICH, '89, 80.	Oct. 11, 1887

McFARLANE, RODERICK ROSS, '22, 203-210, por.....	April 14, 1920
MEINERTZHAGEN, ANNIE CONSTANCE JACKSON (MRS. RICHARD MEINERTZHAGEN), '28, 539.....	July 6, 1928
MIDDENDORFF, ALEXANDER THEODOROVICH, '94, 264.....	Jan. 28, 1894
MOSJISOVICS VON MOJSVAR, FELIX GEORG HERMANN AUGUST, '98, 79, 215.....	Aug. 27, 1897
NAMIYE, MOTOYOSHI, '19, 628-629.....	May 24, 1918
NICHOLSON, FRANCIS, '26, 413-414.....	Feb. 10, 1925
NICOLL, MICHAEL JOHN, '26, 414-415.....	Oct. 31, 1925
NORTH, ALFRED JOHN, '17, 510-511.....	May 6, 1917
OATES, EUGENE WILLIAM, '12, 434.....	Nov. 16, 1911
OGILVIE-GRANT, WILLIAM ROBERT, '24, 644-645.....	July 26, 1924
OUSTALET, [JEAN FRÉDÉRIC] ÉMILE, '06, 355-356.....	Oct. 23, 1905
PALMEN, JOHAN AXEL, '20, 511-512.....	April 7, 1919
PHILIPPI, RUDOLF AMANDUS, '27, 158-159.....	July 23, 1904
PRENTISS, DANIEL WEBSTER, '00, 91-92.....	Nov. 19, 1899
PRJEVALSKY, NICOLAS MICHAELOVICH, '89, 80-81.....	Nov. 1, 1888
PRYER, HARRY JAMES STOVIN, '88, 332-333.....	Feb. 17, 1888
RADDE, GUSTAV FERDINAND RICHARD VON, '03, 458-459.....	March 15, 1903
RAMSEY, EDWARD PIERSON, '17, 376.....	Dec. 16, 1916
ROBINSON, HERBERT CHRISTOPHER, '29, 578-579.....	May 30, 1929
SCHIOELER, EILER LEHN, Ibis, '29, 701-702.....	Aug. 13, 1929
SCHRENCK, LEOPOLD VON, '94, 264.....	Jan. 20, 1894
SÉLYS-LONGCHAMPS, MICHEL EDMOND DE, '01, 219, 292-293.....	Dec. 11, 1900
SEVERTZOW, NICOLAS ALEKSYEVICH, '85, 224.....	Feb. 8, 1885
SHELLEY, GEORGE ERNEST, '11, 387-388.....	Nov. 29, 1910
SIMON, EUGÈNE LOUIS, '25, 478.....	Nov. 17, 1924
SNETHLAGE, EMILIE.....	Nov. —, 1929
STEVENSON, HENRY, '89, 79-80.....	Aug. 18, 1888
SWANN, HARRY KIRKE, '26, 415-416.....	Apr. 14, 1926
TRISTRAM, HENRY BAKER, '06, 484.....	March 8, 1906
TSCHUSI ZU SCHMIDHOFFEN, VICTOR VON, '26, 137-138.....	March 5, 1924
WATERHOUSE, FREDERICK HERSCHEL, '21, 496-497.....	March 12, 1919
WHARTON, HENRY THORNTON, '96, 97.....	Aug. 22, 1895
WHITE, HENRY LUKE, '28, 419-420.....	May 30, 1927
WINGE, ADOLF HERLUF, '25, 174-175.....	Nov. 10, 1923
WOODHOUSE, SAMUEL WASHINGTON, '05, 104-106.....	Oct. 23, 1904
WORCESTER, DEAN CONANT, '24, 645-646.....	May 2, 1924
ZEDLITZ UND TRUTZSCHLER, OTTO VON, '28, 418.....	Dec. 4, 1927
ZELEDON, JOSÉ CASTULO, '23, 682-689, por.....	July 16, 1923

## MEMBERS.

BAGG, EGBERT, '15, 540.....	July 11, 1915
BROWN, HERBERT, '13, 472.....	May 12, 1913
CAMERON, EWEN SOMERLED, '15, 540-541.....	May 25, 1915
DAGGETT, FRANK SLATER, '20, 508-509.....	April 5, 1920



*Deceased Members.*

lxxi

DAWSON, WILLIAM LEON, '28, 417.....	April 30, 1928
FANNIN, JOHN, '04, 510.....	June 20, 1904
FARLEY, JOHN AUSTIN.....	Mar. 17, 1930
HARDY, MANLY, '11, 149-150.....	Dec. 9, 1910
HOLLISTER, NED, '25, 478-480.....	Nov. 3, 1924
JUDD, SYLVESTER DWIGHT, Who's Who, '01, 617.....	Oct. 22, 1905
KNIGHT, ORA WILLIS, '14, 141-142.....	Nov. 11, 1913
KNOWLTON, FRANK HALL, '27, 156-157.....	Nov. 22, 1926
MILLER, OLIVE THORNE (MRS. HARRIET MANN MILLER), '19, 163-169, por.....	Dec. 25, 1918
MORRIS, GEORGE SPENCER, '22, 451-453.....	April 12, 1922
MORRIS, ROBERT OLIVER, '25, 480.....	April 13, 1925
MURDOCH, JOHN, '26, 411-412.....	Sept. 22, 1925
RALPH, WILLIAM LeGRANGE, '07, 461-462.....	July 8, 1907
ROBINSON, WIRT, '29, 282-284.....	Jan. 20, 1929
SWALES, BRADSHAW HALL, '28, 264; 321-329, por.....	Jan. 23, 1928
TORREY, BRADFORD, '13, 157-158.....	Oct. 7, 1912
WHITMAN, CHARLES OTIS, '11, 149; '12, 15-16, por.....	Dec. 6, 1910

ASSOCIATES.

ABBOTT, WALDO LOVEJOY.....	Nov. 19, 1926
ACHORN, JOHN WARREN, '29, 582-583.....	Aug. 5, 1926
ACKERMAN, JOSEPH MOODY.....	July 22, 1919
ADAMS, CHARLES FRANCIS, '93, 385-386.....	May 20, 1893
AIMAR, CHARLES PONS, Who's Who in Am. Med., '25, 13.....	Dec. 1, 1927
ALLEN, CHARLES SLOVER, '94, 86-87.....	Oct. 15, 1893
ANTES, FRANK TALLANT.....	Feb. 6, 1907
ARNOLD, EDWARD.....	Jan. 2, 1930
ARNOLD, WILLIAM W., '23, 574-575.....	March 30, 1923
ATKINS, HARMON ALBRO, '85, 391.....	May 19, 1885
AVERY, WILLIAM CUSHMAN, '94, 263.....	March 11, 1894
BAER, JOHN LEONARD.....	May 28, 1924
BAILEY, BERT HEALD, '17, 512.....	June 22, 1917
BAILEY, CHARLES EATON.....	June 8, 1905
BAIRD, LUCY HUNTER.....	June 19, 1913
BANKS, MARTHA BURR.....	Dec. 13, 1917
BARBOUR, ROBERT.....	Mar. 30, 1926
BARLOW, CHESTER, '03, 92-93.....	Nov. 6, 1902
BARNARD, JOB, '23, 377.....	Feb. 28, 1923
BARROWS, CHARLOTTE M. (MRS. WILLIAM H. BARROWS).....	Jan. 19, 1921
BATTEN, GEORGE, '18, 264-265.....	Feb. 16, 1918
BAUR, GEORG [HERMAN CARL LUDWIG], '98, 286-287.....	June 25, 1898
BAYNES, ERNEST HAROLD, '25, 480-481.....	Jan. 21, 1925
BECKHAM, CHARLES WICKLIFFE, '88, 445.....	June 8, 1888
BENNETT, GEORGE, '28, 540.....	Aug. 18, 1928
BENNETTS, WILLIAM JAMES, '21, 622.....	Sept. 13, 1920

BERIER, DELAGNEL, '30, p. 307.....	Feb. 11, 1916
BETTS, NORMAN, DE WITT, '17, 377-378.....	May 21, 1917
BIGELOW, WILLIAM STURGIS, Who's Who in Am., '26, 275....	Oct. 6, 1926
BILL, CHARLES.....	April 14, 1897
BIRTWELL, FRANCIS JOSEPH, '01, 413.....	June 28, 1901
BLAIN, MERRILL WILLIS, '19, 629.....	Dec. 26, 1918
BOARDMAN, GEORGE AUGUSTUS, '01, 219-220.....	Jan. 11, 1901
BODINE, DONALDSON, '17, 115.....	Aug. 26, 1915
POLLES, FRANK, '94, 184-185.....	Jan. 10, 1894
BOULTON, WILLIAM BOWEN, '23, 378.....	Sept. 17, 1922
BRACKETT, FOSTER HODGES, '00, 197.....	Jan. 5, 1900
BRADBURY, WILLIAM CHASE, '26, 416-417.....	Oct. 3, 1925
BRAINARD, BARRON, '20, 184-185.....	May 15, 1919
BRAINERD, JOHN BLISS, Who's Who in Am. Med., '25, 169..	Nov. 21, 1926
BRANTLEY, WILLIAM FOREACRE.....	Sept. 9, 1914
BREESE, WILLIAM LAWRENCE, '89, 81.....	Dec. 7, 1888
BRENINGER, GEORGE FRANK, '06, 356.....	Dec. 3, 1905
BRENNAN, CHARLES FERRILL.....	March 21, 1907
BREWSTER, CAROLINE FREEMAN KETTELLE (MRS. WILLIAM BREWSTER).....	March 3, 1924
BREWSTER, EDWARD EVERETT, '20, 184.....	July 1, 1919
BRIDGE, LIDIAN EMERSON (MRS. EDMUND BRIDGE).....	Oct. 22, 1928
BRIGGS, JOSEPH STOCKDALE.....	Dec. 13, 1918
BROKAW, LOUIS WESTEN, '97, 431.....	Sept. 3, 1897
BROWN, JOHN CLIFFORD, '01, 220-221.....	Jan. 16, 1901
BROWN, STEWARDSON, '21, 316-317.....	March 14, 1921
BROWNE, FRANCIS CHARLES, '00, 194-196.....	Jan. 9, 1900
BROWNSON, WILLIAM HENRY, '09, 453.....	Sept. 6, 1909
BURKE, WILLIAM BARDWELL.....	April 15, 1914
BURNETT, LEONARD ELMER.....	March 16, 1904
BURNHAM, JOHN, '26, 578-579.....	March 27, 1926
BUTLER, [THOMAS] JEFFERSON.....	Oct. 23, 1913
BUXBAUM, MRS. CLARA SNODGRASS.....	March 23, 1914
BUZZELL, FLORENCE ELEANOR BRAGG (MRS. JAMES CUSHMAN BUZZELL).....	Jan. 21, 1922
CAIRNS, JOHN SIMPSON, '95, 315.....	June 10, 1895
CALL, AUBREY BRENDON.....	Nov. 20, 1901
CAMP, ROBERT DESHAN, '29, 581-582.....	Aug. 6, 1929
CAMPBELL, ROBERT ARGYLL.....	April —, 1897
CANFIELD, JOSEPH BUCKINGHAM.....	Feb. 18, 1904
CAPEN, FREDERICK MORTIMER.....	Feb. 27, 1929
CARLETON, CYRUS.....	Nov. 15, 1907
CARRY, FRANK MALLARY.....	April 3, 1923
CARTER, CHARLES MORELAND, '23, 183-184.....	Sept. 1, 1922
CARTER, EDWIN, Condor, '29, 196-200, por.....	Feb. 2, 1900

CARTER, ISABEL MONTIETH PADDOCK (MRS. EDGAR NEELS CARTER), '08, 104-105.....	Sept. 15, 1907
CASH, HARRY ALVIN.....	Jan. 11, 1928
CHADBOURNE, ETHEL RICHARDSON (MRS. ARTHUR PATTERSON CHADBOURNE).....	Oct. 4, 1908
CHARLES, FRED LEMAR.....	May 6, 1911
CLARK, JOHN NATHANIEL, '03, 242-243.....	Jan. 13, 1903
CLARK, JOSIAH HUNTOON, '29, 426.....	May 7, 1928
CLARKE, MARY STELLA, '28, 541.....	Jan. 14, 1927
CODMAN, JAMES MACMASTER.....	Oct. 9, 1925
COE, WILLIAM WELLINGTON.....	April 26, 1885
COLBURN, WILLIAM WALLACE, '00, 92.....	Oct. 17, 1899
COLLETT [COLLETTE], ALONZO MCGEE, '02, 422-423.....	Aug. 22, 1902
COMEAU, NAPOLEON ALEXANDER, '24, 387.....	Nov. 17, 1923
CONANT, MARTHA WILSON (MRS. THOMAS OAKES CONANT).....	Dec. 28, 1907
CONKLIN, CHARLES EDGAR.....	Sept. 8, 1916
COPELAND, ADA BELLE, '26, 417.....	Aug. 7, 1925
CORNING, ERASTUS, JR.....	April 8, 1893
CREHORE, FREDERIC MORTON, Who's Who in N. E., '09, 261.....	Oct. 16, 1919
CUDWORTH, WARREN HANDEL.....	Jan. 13, 1927
DAFFIN, WILLIAM HENRY.....	April 21, 1902
DAKIN, JOHN ALLEN, '00, 196-197.....	Feb. 21, 1900
DAVIS, CHARLES HENRY.....	Oct. 5, 1918
DAVIS, SUSAN LOUISE (MRS. WALTER ROCKWOOD DAVIS).....	Feb. 13, 1913
DAVIS, WALTER ROCKWOOD.....	April 3, 1907
DEANE, GEORGE CLEMENT.....	Jan. 14, 1930
DENNIS, LABAN.....	Nov. 18, 1925
DEWEY, CHARLES AYRAULT, '30, p. 308.....	June 13, 1927
DEXTER, JOHN SMITH, '28, 540.....	April 19, 1928
DEXTER, LEWIS, '24, 203.....	Aug. 19, 1923
DEXTER, [SIMON] NEWTON, '01, 413.....	July 27, 1901
DIONNE, CHARLES EUSEBE, '25, 308-309.....	Jan. 25, 1925
DODGE, JULIAN MONTGOMERY.....	Nov. 23, 1909
DORN, LOUIS WILHELM.....	April 4, 1918
DRAPER, WALLACE SHERWIN.....	April 13, 1925
DRUMMOND, MARY.....	April 22, 1926
DULL, HELEN BOYD (MRS. ANDREW PENROSE LUSK DULL).....	Aug. 9, 1924
DUNLOP, ERIC BROOKE, '18, 266.....	May 19, 1917
DYCHE, LEWIS LINDSAY, '17, 116.....	Jan. 20, 1915
EASTMAN, SARAH.....	Jan. 18, 1926
EATON, HOWARD, '23, 573-574.....	April 5, 1922
EIMBECK, AUGUST FREDERICK.....	Sept. 1, 1924
ELDRIDGE, ARTHUR STUART.....	Nov. 6, 1919
ELLIOT, SAMUEL LOWELL, '89, 206.....	Feb. 11, 1889
ENO, HENRY LANE.....	Sept. 10, 1928
FAIRBANKS, FRANKLIN, '95, 315-316.....	April 24, 1895

FALGER, ANNIE (Mrs. WILLIAM FALGER)	Aug. 2, 1923
FARQUHAR, ARTHUR	Feb. 21, 1920
FARWELL, ELLEN SHELDON DRUMMOND (Mrs. JOHN VILLERS FARWELL)	Aug. 6, 1912
FAY, DUDLEY BOWDITCH	Feb. 7, 1921
FERRY, JOHN FARWELL, '10, 240-241	Feb. 11, 1910
FERRY, MARY BISSELL, '17, 116-117	March 18, 1915
FISHER, WILLIAM HUBBELL, Bird Lore, '09, 327-328, por.	Oct. 6, 1909
FLANAGAN, JOHN HENRY, '20, 639-640	Feb. 23, 1920
FOOTE, FANNIE HUBERTA	1920
FOWLER, JOSHUA LOUNSBURY, '99, 377	July 11, 1899
FOX, WILLIAM HENRY	Nov. 3, 1921
FRANCIS, NATHANIEL ATWOOD	June 10, 1921
FULLER, CHARLES ANTHONY	March 16, 1906
FULLER, TIMOTHY OTIS, '17, 115	Aug. 17, 1916
FULTON, HARRY LEE	May 28, 1925
GARST, JULIUS, Who's Who in N. E., '09, 397	Feb. 14, 1926
GESNER, ABRAHAM HERBERT, '95, 316	April 30, 1895
GIBSON, LANGDON, '27, 293-294	Sept. 4, 1923
GOSS, BENJAMIN FRANKLIN, '93, 385	July 6, 1893
GREENOUGH, MARIETTA MCPHERSON (Mrs. CHESTER NOYES GREENOUGH)	Sept. 11, 1925
GRIM, WILLIAM HENRY	Dec. 26, 1926
GRONBERGER, SVEN MAGNUS, '16, 355	April 24, 1916
HALES, HENRY TEASDEL	Nov. 6, 1913
HARROLD, CYRIL GUY, '29, 285-286	Feb. 4, 1929
HATCH, JESSE MAURICE	May 1, 1898
HAZARD, ROWLAND GIBSON, '18, 264	Jan. 23, 1918
HENDERSON, JOHN BROOKS, Who's Who in Am., '22, 1480	Jan. 4, 1923
HENDRICKSON, WILLIAM FRANCIS	Summer, 1925
HERRICK, ELIZABETH ADELA ADAMS (Mrs. WILLIAM HENRY HERRICK)	Sept. 30, 1923
HEWITT, CHARLES GORDON, '20, 511	Feb. 29, 1920
HILL, JAMES HAYNES	Dec. 11, 1922
HILL, WILLIAM HENRY, Who's Who in Am., '12, 989	Oct. 14, 1913
HINE, JANE LOUISA BROOKS (Mrs. HORATIO S. HINE), '17, 117	Feb. 11, 1916
HITCHCOCK, Mrs. ELEANOR BECKWITH	March 3, 1917
HOADLEY, FREDERICK HODGES, '95, 199	Feb. 26, 1895
HOLMES, LARUE KLINGLE, '06, 356	May 10, 1906
HOOPES, JOSIAH, '04, 311-312	Jan. 16, 1904
HOWE, FLORENCE AURELLA, Bird Lore, '14, 148	July 9, 1913
HOWE, INEZ ADDIE	Nov. 26, 1924
HOWE, LOUISE	Sept. 13, 1912
HOWLAND, HENRY RAYMOND, Who's Who in Am., '28, 1089	Feb. 4, 1930
HOWLAND, JOHN SNOWDEN, '86, 144	Sept. 19, 1885

HUBBARD, SARA ANDERSON (MRS. JAMES M. HUBBARD), '25, 618-619	July 31, 1918
HULL, LOUISE GERTRUDE RANSTEAD (MRS. JOHN BAKER HULL)	May 31, 1925
HUNT, RICHARD MONTAGUE, '25, 617-618.....	June 25, 1925
INGALLS, CHARLES EDWARD.....	May 31, 1917
INGERSOLL, JOSEPH CARLETON.....	Oct. 1, 1897
JACKSON, ROBERT LEROY.....	Oct. 18, 1928
JACKSON, THOMAS HOOPES, '22, 299-300.....	Feb. 27, 1922
JENKS, JOHN WHIPPLE POTTER, '95, 94.....	Sept. 26, 1894
JENNEY, CHARLES FRANCIS, '24, 386-387.....	Nov. 29, 1923
JEWEL, LINDSEY LOUIN, '16, 459.....	Sept. 5, 1915
JOHNSON, REGINALD MANSFIELD.....	Feb. 11, 1923
JOUY, PIERRE LOUIS, '94, 262-263.....	March 22, 1894
JUSTICE, HENRY, '18, 266.....	March 1, 1918
KELKER, WILLIAM ANTHONY.....	Feb. 15, 1908
KIBBE, AUGUSTUS SAYRE. '27, 161-162.....	Aug. 21, 1926
KIRKHAM, FANNY CURTIS BARRI (MRS. JAMES WILSON KIRKHAM)	Nov. 1, 1928
KNAPP, MRS. HENRY ALONZO.....	June 13, 1918
KNIGHT, WILBUR CLINTON, '03, 457-458.....	July 28, 1903
KNOX, JOHN COWING, '05, 106.....	June 10, 1904
KOCH, AUGUST, '07, 238-239.....	Feb. 15, 1907
KUMLIEN, LUDWIG, '03, 93-94.....	Dec. 4, 1902
KUMLIEN, THURE LUDWIG THEODOR, '89, 81, 204-205.....	Aug. 5, 1888
KUSER, ANTHONY RUDOLF, '29, 579-580.....	Feb. 8, 1929
LACEY, HOWARD GEORGE, '29, 580.....	March 5, 1929
LAKE, LESLIE WALDO, '16, 233.....	Feb. 7, 1916
LANGILLE, JAMES HIBBERT, '23, 572-573.....	April 9, 1923
LANO, ALBERT, '28, 540-541.....	July 3, 1928
LANTZ, DAVID ERNEST, '19, 154-155.....	Oct. 7, 1918
LATIMER, CAROLINE PARMELEE.....	April 19, 1916
LAWRENCE, ROBERT HOE, '97, 342.....	April 27, 1897
LEACH, FRANK ALEMAN, '30, p. 308.....	June 19, 1929
LEARNED, AGNES MAY.....	May 8, 1929
LEE, LESLIE ALEXANDER, '08, 340-341.....	May 20, 1908
LEFFINGWELL, DANA JACKSON.....	Mar. 6, 1930
LEVEY, ANNE MAUD CHARLESWORTH (MRS. WILLIAM MARSHALL LEVEY) '29, 426.....	April 23, 1929
LEVEY, WILLIAM CHARLESWORTH, '16, 233.....	July 5, 1914
LINDEN, CHARLES, '88, 220.....	Feb. 3, 1888
LLOYD, ANDREW JAMES.....	June 14, 1906
LORD, WILLIAM ROGERS, '17, 511-512.....	Feb. 2, 1916
LYNCH, JOSEPH.....	Dec. 23, 1926
MABBETT, GIDEON.....	Aug. 15, 1890
MABBOTT, DOUGLAS CLIFFORD, '19, 153-154.....	Sept. 15, 1918



MAITLAND, ALEXANDER.....	Oct. 25, 1907
MAITLAND, ROBERT LENOX, '20, 640.....	March 11, 1920
MARBLE, CHARLES CHURCHILL, '00, 404.....	Sept. 10, 1900
MARCY, OLIVER, '99, 211.....	March 19, 1899
MARIS, WILLARD LORRAINE, '96, 193.....	Dec. 11, 1895
MARRS, LAURA NORCROSS (MRS. KINGSMILL MARRS), Bird Lore, '27, 91.....	Sept. 23, 1926
MARSDEN, HENRY WARDEN, Condor, '14, 202-204.....	Feb. 26, 1914
MARSHALL, ALFRED, '30, 134-135.....	March 24, 1929
MARTIN, MARTHA EVANS (MRS. EDWIN CAMPBELL MARTIN), '25, 481- 482.....	Jan. 6, 1925
MAYNARD, CHARLES JOHNSON, Bull. Boston Soc. Nat. Hist., '30, 3-7, por.....	Oct. 15, 1929
McCONNELL, THOMAS LEO, '23, 721-722.....	Oct. 13, 1922
McCREA, WILLEY SOLON, Horse Review, June 1, '27, 511.....	May 27, 1927
McEWEN, DANIEL CHURCH.....	Nov. 1, 1909
McHATTON, HENRY, '18, 107.....	April 22, 1917
McINTIRE, IDA WOODWARD (MRS. HERBERT BRUCE McINTIRE) May 3, 1923	
McKINLAY, JAMES, '01, 221.....	Nov. 30, 1899
McMAHON, WALTER FREEMAN, '19, 153.....	Aug. 28, 1918
MEAD, GEORGE SMITH, '02, 222-223.....	June 18, 1901
MEANS, CHARLES JOHNSON.....	Sept. 19, 1923
MERRILL, HARRY.....	Nov. 24, 1924
MILLS, ENOS ABIJAH, '23, 721.....	Sept. 21, 1922
MILLS, RALPH WALTER.....	Feb. 15, 1924
MINOT, HENRY DAVIS, '91, 121; '97, 431-432.....	Nov. 13, 1890
MITCHELL, FREDERICK SHAW, '29, 426-427.....	Feb. 15, 1929
MORRELL, CLARENCE HENRY, '02, 423.....	July 15, 1902
MORRIS, LUCY NOBLE.....	Oct. 5, 1927
MOSHER, FRANKLIN HERBERT.....	April 18, 1925
MOSES, EMMA LEE (MRS. EDMUND QUINCY MOSES).....	Mar. 17, 1927
MYERS, LUCY FITCH.....	Oct. 30, 1928
NICHOLS, HOWARD GARDNER, '97, 115.....	June 23, 1896
NIMS, LEE.....	March 12, 1903
NORTHROP, JOHN ISALAH, '91, 400.....	June 26, 1891
OLDS, HENRY WORTHINGTON (HENRY OLDYS), '25, 616-617.....	Jan. 20, 1925
OLIVER, HENRY KEMBLE, '20, 639.....	Oct. 25, 1919
PAINE, CHARLES JACKSON.....	Aug. 4, 1926
PARK, AUSTIN FORD, '93, 384-385.....	Sept. 22, 1893
PAULMIER, FREDERICK CLARK, Science, Apr. 6, '06, 556-557, March 4, 1906	
PEMBER, KARL ALBRECHT, '28, 268.....	Jan. 11, 1928
PENNINGTON, LEIGH HUNT, '29, 427.....	April 24, 1929
PENROSE, CHARLES BINGHAM, '25, 307-308.....	Feb. 27, 1925
PERRY, HENRY JOSEPH.....	Feb. 4, 1926
PILLSBURY, FRANK OTIS.....	Aug. 16, 1927

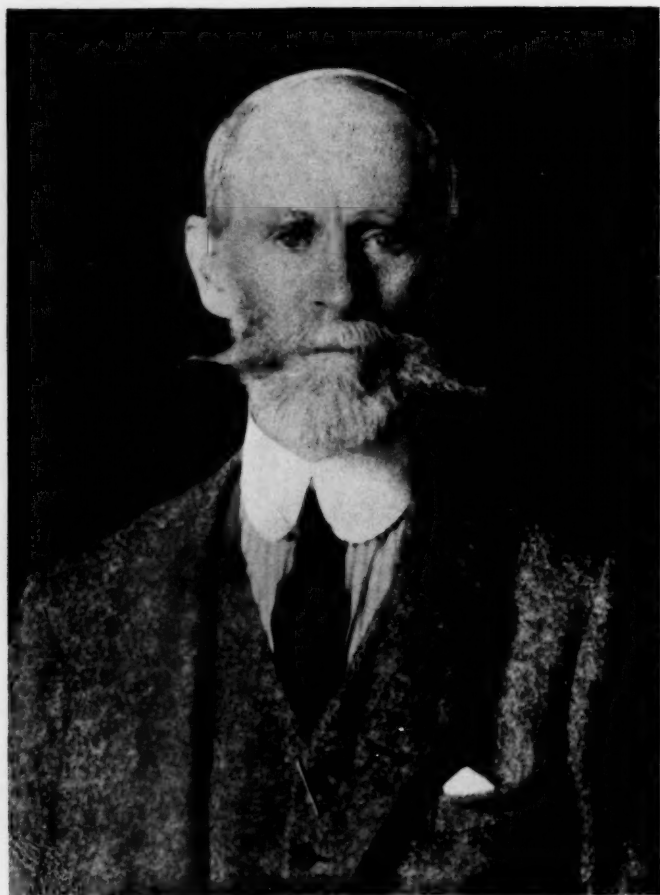
*Deceased Members.*

lxxvii

POMEROY, GRACE VIRGINIA.....	May 14, 1906
POMEROY, HARRY KIRKLAND, '15, 386.....	Jan. 27, 1915
POWELL, MRS. S. W.....	1918
PURDY, JAMES BRITTON, '25, 620-621.....	June 2, 1925
PUTNAM, FREDERIC WARD, '15, 541.....	Aug. 14, 1915
QUIGGLE, JAMES CLARENCE.....	June 21, 1921
RAGSDALE, GEORGE HENRY, '95, 316.....	March 25, 1895
RAWLE, FRANCIS WILLIAM, Cassinia, '11, 69-70.....	June 12, 1911
RAYMOND, BESSIE.....	Nov. 20, 1923
RAYMOND, CARRIE M. (MRS. CHARLES EUGENE RAYMOND).....	Feb. 5, 1924
READY, GEORGE HENRY, '03, 327.....	March 20, 1903
REED, CHESTER ALBERT, '13, 319.....	Dec. 16, 1912
RICHARDSON, JENNESS, '93, 307-308.....	June 24, 1893
ROBBINS, NANCY PIERCE HARTSHORN.....	Feb. 8, 1919
ROBBINS, ROYAL ELISHA.....	Feb. 9, 1920
ROBERTS, WILLIAM FLORIAN, '29, 580-581.....	Feb. 18, 1929
ROBINS, JULIA STOCKTON (MRS. EDWARD ROBINS), '06, 485.....	July 2, 1906
SACKETT, CLARENCE.....	May —, 1923
SAND, ISABELLA LOW.....	April 20, 1906
SAVAGE, WALTER GILES.....	Aug. —, 1917
SCHENCK, FREDERIC.....	Feb. 28, 1919
SELOUS, PERCY SHERBORN, '00, 322.....	April 7, 1900
SHANNON, WILLIAM PURDY.....	Oct. 29, 1916
SHELDON, CHARLES, '29, 150.....	Sept. 21, 1928
SILSBEE, THOMAS.....	April 29, 1919
SLATER, JAMES HOWE.....	Feb. 22, 1895
SLEVIN, THOMAS EDWARDS, '03, 326-327.....	Dec. 23, 1902
SMALL, EDGAR ALBERT, '84, 306.....	April 23, 1884
SMALL, HAROLD WESLEY.....	March 12, 1912
SMITH, CLARENCE ALBERT '96, 267-268.....	May 6, 1896
SMITH, HENRY ALBERT PATTINSON, Can. Field Nat., '23, 166-167.....	April 29, 1923
SMITH, RUTH COOK (MRS. H. A. HAMMOND SMITH).....	Jan. 2, 1912
SNOW, FRANCIS HUNTINGTON, '08, 497.....	Sept. 20, 1908
SOULE, CAROLINE GRAY, Who's Who in N. E., '09, 868.....	April 27, 1920
SOUTHWICK, JAMES MORTIMER, '04, 511.....	June 3, 1904
SPAULDING, FREDERICK BENJAMIN, '14, 142-143.....	Oct. 22, 1913
STANTON, JONATHAN YOUNG, '18, 511-512.....	Feb. 17, 1918
STEWART, EDITH ALEXANDER, (MRS. CECIL STEWART).....	May 30, 1921
STONE, WILLARD HARRISON.....	March 15, 1895
STYER, KATHARINE REBECCA (MRS. J. J. STYER), '17, 241.....	Jan. 20, 1917
SUGDEN, ARTHUR WALES.....	Sept. 25, 1928
SWEIGER, HELEN BRONSON (MRS. JACOB L. SWEIGER), '08, 105.....	March 24, 1907
TAYLOR, ALEXANDER O'DRISCOLL, '10, 363.....	April 10, 1910
TERRY, ALICE PIERCE.....	Oct. 26, 1924
THOMAS, EMILY HINDS.....	Oct. 17, 1920

THOMPSON, MILLETT TAYLOR, <i>Am. Men. Sci.</i> , '06, 319.....	Aug. 7, 1907
THORNE, PLATT MARVIN, '97, 254-255.....	March 16, 1897
THORNE, SAMUEL, '17, 378.....	July 4, 1915
THURBER, EUGENE CARLETON, '96, 349.....	Sept. 6, 1896
TUFTS, MARY IVINS.....	Oct. 28, 1928
TWEEDY, EDGAR.....	Nov. 18, 1918
UNDERWOOD, WILLIAM LYMAN, '29, 284-285.....	Jan. 28, 1929
UPHAM, MARY CORNELIA (MRS. WILLIAM HENRY UPHAM)...	Nov. 29, 1912
VALENTINE, ANNA JACOBS.....	Dec. 6, 1928
VANDERGRIFT, SAMUEL HENRY, '27, 163.....	Sept. 21, 1926
VENNOR, HENRY GEORGE, '84, 306.....	June 8, 1884
VON Lengerke, JUSTUS, '30, p. 306.....	Oct. 7, 1929
WALKER, ROBERT LATSHAW, '18, 511.....	Nov. 19, 1916
WALLACE, JAMES STIRTON, '23, 722.....	July 24, 1922
WATERS, EDWARD STANLEY, '03, 243.....	Dec. 27, 1902
WARREN, BENJAMIN HARRY, '27, 163-164.....	Oct. 10, 1926
WEBSTER, GEORGE ARTHUR, <i>Who's Who in N. E.</i> , '09, 982..	July 31, 1928
WEEKES, CHARLES HENRY.....	Nov. 14, 1921
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WELLES, CHARLES SALTER, <i>Entom. News</i> , '14, 192.....	Feb. 24, 1914
WETMORE, HELEN HOWLAND (MRS. EDMUND WETMORE)...	June 7, 1924
WHITE, GEORGE RIVERS, '29, 581.....	Nov. 27, 1927
WHITE JAMES CLARKE, '18, 265-266.....	Jan. 5, 1916
WHITE, WILLIAM AUGUSTUS.....	May 14, 1927
WILEY, LEO, '19, 629.....	Oct. 31, 1918
WILLARD, FRANCIS COTTLE.....	Feb. 21, 1930
WILLARD, SAMUEL WELLS.....	May 24, 1887
WILSON, SIDNEY STEWART.....	Nov. 22, 1911
WINDLE, FRANCIS, '17, 512-513.....	Feb. 24, 1917
WISE, HELEN DURAND.....	April 5, 1925
WISTER, WILLIAM ROTCH.....	Aug. 21, 1911
WOOD, JOHN CLAIRE, '16, 459-460.....	June 16, 1916
WOOD, NELSON RUSH, '21, 159.....	Nov. 8, 1920
WOOD, WILLIAM, '85, 391.....	Aug. 9, 1885
WOODRUFF, EDWARD SEYMOUR, '09, 218-219.....	Jan. 15, 1909
WOODRUFF, FRANK MORLEY, '26, 577-578.....	July 21, 1926
WOODRUFF, LEWIS BARTHOLOMEW, <i>Nat. Hist.</i> , '26, 338...	Nov. 27, 1925
WOODWARD, FRANK ERNEST, '22, 453-454.....	Aug. 5, 1921
WOODWORTH, ROY CHURCH, '22, 592-593.....	June 29, 1922
WORTHEN, CHARLES KIMBALL, '09, 332.....	May 27, 1909
WRIGHT, HORACE WINSLOW, '20, 509-510.....	June 3, 1920
WRIGHT, MARY ANGELINA.....	Aug. 25, 1928
WRIGHT, SAMUEL, '17, 240-241.....	Jan. 18, 1917
WYMAN, LUTHER EVERET, '28, 266-267.....	Jan. 7, 1928
YOUNG, CURTIS CLAY, '03, 94.....	July 30, 1902
ZAPPEY, WALTER REAVES, '18, 263-264.....	Feb. 20, 1914

*[Faint handwritten notes at the bottom of the page]*



*Sincerely yours  
Jonathan Dwight*



# THE AUK:

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IN MEMORIAM: JONATHAN DWIGHT.

BY J. H. FLEMING.<sup>1</sup>

*Plate I.*<sup>2</sup>

JONATHAN DWIGHT, M.D., a Fellow and Past President of the American Ornithologists' Union, died in New York City on February 22, 1929, in his seventy-first year. The son of Jonathan and Julia Lawrence (Hasbrouck) Dwight, he was born in New York City on December 8, 1858, at 2 East 34th Street, the residence of his grandmother, Ann Bartlett Dwight. This house was in later years to become his home. His parents lived in Madison, New Jersey, just over the line from Morristown, and here his boyhood was spent. For three years he attended the Madison Classical Institute kept by John Shier. Later in New York he prepared with a private tutor, and entered Harvard University in the autumn of 1876. Of this period his room-mate recalls,—“in college he would often get up at three o'clock in the morning and go after crows' nests. For a man of his rather delicate fibre he astounded me with the tremendous amount of work that he accomplished. He was always a pure-minded, studious boy and man, and I had a great respect for him although his tastes were quite different from mine.” A contemporary who was afterwards a close friend says that “Dwight's early life in college was a rather solitary one; he took no pains to cultivate eligible acquaintances, did not go in for

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<sup>1</sup> Read before the Forty-seventh Stated Meeting of the American Ornithologists' Union, Philadelphia, Pa., October 22, 1929.

<sup>2</sup> From a group taken November 1924 at American Museum of Natural History.

athletics, and did not trouble himself about dress. His recreation and enthusiasm was collecting birds' eggs." And this same friend writes: "He was an able and very daring climber, and I have shivered on the ground below, as I watched him climbing into outer branches of a tall tree, and of course he did it without any of the safety equipment of the modern climber." Egg collecting continued but with a growing knowledge of the habits of birds. College work was not neglected as two entries in Dwight's diary for 1878 show, "May 11, near Lexington with Batchelder,<sup>1</sup> my mouth has not accommodation for 5 Crow Blackbird's eggs as proved by my tooth (not the only one I have) going through one, while descending a spruce tree by moonlight."—"May 22, went towards Arlington with Townsend<sup>2</sup> at 4 A. M. and got back at 9 A. M. we saw no rarities but heard Virginia Rails. We found a *H. rufus* nest, 5 eggs."

Dwight had attended meetings of the Nuttall Ornithological Club, of Cambridge, the beginning of lasting friendships with a group of men who were to profoundly influence American ornithology. The Cambridge influence is evident from an entry in the diary of September 14, 1878, at Squam Beach, New Jersey, where he had been with his father since July 15, for shore-bird shooting. He lists ninety-seven species of birds seen by himself or reported by others. On New Year's day 1878, he enters in his diary "This is the second year that I have kept systematic notes, last year being the first that I have collected, really knowing what was to be expected from a true collector—a scientific collector. I have collected birds' eggs since about 1872, and only began to collect nests and birds themselves in 1878. I got my first bird July 16, 1878, and now have 110 skins, embracing 65 species. 'Identification comes first' is now my maxim." This first bird is entered in the catalogue of the Dwight collection "No. 1. *Sterna hirundo*. N. J., Ocean County, Squam Beach; July 16, 1878." Measurements and stomach contents are carefully noted, the order of State, County, and place is followed on the labels of all his subsequent bird skins, and greatly facilitated the finding of a skin in a crowded tray. The making of a bird skin came easily to Dwight. His methods were

<sup>1</sup> C. F. Batchelder.

<sup>2</sup> C. W. Townsend, M.D.

those of his friend William Brewster of Cambridge. There were no unnecessary movements, the scalpel and surgical scissors being used in the exact order required. The skin was prepared quickly with that sureness of touch and neatness that was characteristic. The sexing was done with care, and the label clearly written.

Dwight's first ornithological paper was a note on the occurrence of the Stilt Sandpiper in New Jersey. This appeared in the January number of the 'Bulletin of the Nuttall Ornithological Club' for 1879. The summer of 1879 was spent at Tadousac, on the Saguenay River, Quebec, and his diaries record twenty-five species of birds observed or collected there. Tadousac was afterwards to become his regular summer home; though the bird life there was restricted in numbers, the species were of much interest. Returning from Tadousac, the museum of the Literary and Historical Society at Quebec was visited, and notes made in the diary of any birds in immature plumage in the collection.

Graduating with honors in the Harvard class of 1880, Dwight joined his father, a distinguished civil engineer and successful railroad builder, in contract work; but while in Florida in the following spring was taken seriously ill, and only after a prolonged convalescence resumed work in 1883. The time was not lost,—two winters in Florida added greatly to the growing collection, and much on the habits and plumages of Florida birds was noted in the diary.

The foundation meeting of the American Ornithologists' Union took place on September 26, 1883. Dwight was elected an Associate Member, thus beginning a connection that was to last for forty-five years. The next five years were divided between professional work, the study of ornithology, and field excursions in summer to New Brunswick, Nova Scotia, Prince Edward Island and Quebec.

In 1889, Dwight enlisted in the 7th Regiment, National Guard of New York, and took up rifle shooting with enthusiasm. Service in the regimental ambulance corps awakened an interest in medicine, and entering the Medical School of Columbia University he graduated in 1893. For some years he was connected with the New York Hospital, and the Vanderbilt Clinic besides carrying on a private practice, from which he finally retired to give his time wholly to ornithology. During these years the study of the plumage changes in birds went steadily on. Material was lacking in

collections; this Dwight proceeded to get, often under difficult conditions.

The study of this material was preceded by an investigation of feather tracts. A Bobolink was plucked, the feathers counted, their age and relationship ascertained by microscopic examination. With the knowledge thus gained the problem of the sequence of moults was gradually interpreted. When sure of his facts, the publication of papers began. The most important of these early ones 'Sequence of Plumage and Moults of the Passerine Birds of New York,'<sup>1</sup> definitely fixed Dwight's position as a philosophical ornithologist; "It blazed a trail that has become a main travelled road."<sup>2</sup> The old and tenaciously held belief that pigmental change could occur in the mature feather was also vigorously and successfully fought.

The study of sub-species was facilitated by the rapid growth of his collection, soon to crowd all available storage room. Dwight viewed sub-species with a critical eye, each was examined on its merits, and if rejected there were good grounds for doing so. His unrivalled knowledge of plumages together with a vast amount of new material gave weight to his decisions, which he defended with vigor before the Committee on Nomenclature of the A. O. U.

Storage room for part of the collection was provided by the American Museum in 1904, but being insufficient the main collection was removed in 1906 to a building adjoining the residence of his friend Dr. Louis B. Bishop in New Haven, Connecticut; here the material was sorted and stored. With Dr. Bishop's great collection available for comparison the two friends were able to do much systematic work. Progress was made at this time in the construction of storage cases, a subject that later was to be given much attention. With storage cases of a new type, and room for expansion, the collection grew rapidly till the New Haven building became crowded. In 1909 the trustees of the American Museum offered Dwight a room in the Museum that seemed sufficient for future expansion. The aid of the mechanical staff of the Museum was enlisted to further improve the storage cases, and a type was evolved that has since become standard equipment in American Museums.

<sup>1</sup> Ann. N. Y. Acad. Sci. XIII, 1900, pp. 73-360.

<sup>2</sup> Chapman, Natural History XXIX, 1929, p. 327.

The years that followed were ones of increasing usefulness. Workers at the Museum were able to avail themselves of the wealth of material in the collection. Dwight's room became an ornithological centre, where problems were discussed and advice sought by many workers in ornithology. The collection continued to grow and the Museum, freed from the need of increasing its own North American collections, was able to use its resources elsewhere, particularly in South America. Later the Museum's work was hampered by lack of comparative material from parts of Central America, and Dwight becoming interested in distributional problems in that region secured extensive collections from Costa Rica and Guatemala; these, he was, through illness, unable to work up.

At the time of Dwight's death the collection amounted to some sixty-five thousand skins, carefully labelled and catalogued. With the exception of a representative series of North American birds, together with the collection of nests and eggs, left to the Museum at Springfield, Massachusetts, the collection passes to the American Museum.

The literature of American ornithology was a subject in which Dwight was especially interested. Beginning his library at a time when the word 'Americana' was not to be found in dealers' catalogues, and books were obtainable at a moderate price, he secured many of the early printed American books that contained references to birds: local lists, wherever printed, were sought out. A card catalogue of books containing references to American birds was prepared and annotated to facilitate the growth of the library. The collection of minor ornithological journals and pamphlets, was probably the most complete in any American library. Works on general ornithology were represented by many early and rare books, particularly those that had a bearing on nomenclature. The library was representative of the owner, the books being kept in a cheerful room that visitors were made to feel was part of the home.

Dwight's connection with the American Ornithologists' Union was close. He was elected an Associate in 1883, an Active Member (later changed to Fellow) in 1886, and of the forty-six meetings he attended all but the last. Elected to the Council in 1896, he became Treasurer in 1903, resigning in 1920 when he was elected Vice-President. He was President from 1923 to 1926, and member



of the council for thirty-three years. To the Union he gave unsparingly of his time, watching over its membership list and investments with the same care he gave to his own affairs.

Possessing a faculty for languages, Dwight early became interested in the origin of scientific names, and was long a member of the Committee on Classification and Nomenclature, where his influence was always conservative.

He was a member of the Council and Treasurer of the National Association of Audubon Societies, and for long President of the Linnaean Society of New York, whose medal he received shortly before his death.

Though reticent he was always approachable and courteous. His opinions were never given without due consideration, and he was especially considerate of, and helpful to, younger men. His published writings are common property. He cleared the way for future workers in some of the more difficult problems of ornithology. Quality not quantity was his motto. To his friends he was ever a delightful companion, and his hospitality to visiting ornithologists will long be remembered.

Dwight was of Puritan ancestry, being in the ninth generation from John Dwight who founded Debham, Massachusetts, in 1634. On his mother's side he was descended from one of the old Dutch families long settled in Manhattan. He was married twice,—in 1901 to Georgina Gertrude Rundle, who died in 1903;—in 1914 to Ethel Gordon Wishart Adam who survives him.

*Rusholme Road, Toronto, Ontario.*

## IN MEMORIAM: NEWBOLD TROTTER LAWRENCE.

BY MAUNSELL SCHIEFFELIN CROSBY.

### *Plate II.*

NEWBOLD TROTTER LAWRENCE was born in New York City on May 6, 1855, and died in Antwerp, Belgium, where he was visiting his son, on August 14, 1928, after a short illness.

Three Lawrence brothers came to America in 1635, landing at Plymouth, Massachusetts, and going thence to Long Island, New York. One of these was William Lawrence, 15th in descent from Robertus Laurentius of Asburton Hall, Lancashire, who accompanied Richard the Lion-hearted on the Crusades and was the first to mount the rampart at Acre in 1191.

This William Lawrence became patentee of Flushing, Long Island, and the largest land holder there. The Lawrences of Lawrence were descended from him and Newbold T. Lawrence was in the direct line of descent.

His father was Newbold Lawrence, brother of the ornithologist, George N. Lawrence, and his mother was Miss Anna Hough Trotter of Philadelphia. Both his parents were Quakers, but as his father was a Hicksite and his mother belonged to the Orthodox sect, they could not be married in meeting and so they were married by an Episcopal clergyman. This was in 1851. They made their home at 45 East 29th Street, New York, between Fifth and Madison Avenues in a three-story brick house newly built on what had recently been a farm. Here Newbold T. Lawrence was born. He attended a private school in New York, and among his school mates was Harold Herrick, who later named Lawrence's Warbler for him and who also became his brother-in-law by marrying one of his sisters. Mr. Lawrence spent one year attending New York University and then entered the real estate field with H. H. Camman and Company. Later still he became an independent real estate broker, remaining in the business up to the time of his death. His summer home at Lawrence, originally a tract of 125 acres, was bought by his father and developed by Mr. Lawrence for summer homes of the better sort for the metropolitan population. It was

ideally located on the south shore of Long Island, with constant cool breezes blowing throughout the summer months.

In 1887 Mr. Lawrence was married in the Church of the Incarnation to Miss Isabel Gillet of Baltimore, daughter of N. Halleck and Eliza Gillet. Two children died in infancy, but a son, Newbold T. Lawrence II, survives, now with a shipping firm in Antwerp, and he has a son Newbold T. Lawrence III.

Mr. Lawrence was from boyhood interested in birds and early made a collection of over six hundred skins, which he left in his will to the Academy of Natural Sciences in Philadelphia. He became keen at shore-bird and duck shooting and was particular to keep a written record of the birds he collected. It is interesting to find, for instance, that in 1873 he found such species as the Eskimo and Long-billed Curlew and both Godwits relatively common at Long Beach, Long Island, compared with their absence or rarity today, and that he also collected there the Gull-billed Tern. In his notes he calls the Eskimo Curlew the "Dough-bird" and the Long-billed Curlew the "Sickle-bill," the Hudsonian Godwit the "Ring-tailed Marlin" and the Marbled Godwit the "Brown Marlin." He was a friend of the late Eugene P. Bicknell, and when the latter came to Long Island to live and began to make a special study of the birds of Long Beach, Mr. Lawrence turned over all his notes to him and these were incorporated in the 'Birds of the New York City Region' by Mr. Ludlow Griscom.

The type specimen of Lawrence's Warbler (*Vermivora lawrencei*), already mentioned, was obtained by Mr. Lawrence from Chatham, New Jersey, and described by Mr. Harold Herrick in 1874 in the 'Proceedings of the Academy of Natural Sciences of Philadelphia' (P. 220, pl. 15). It was further recorded in 'Forest and Stream' (Volume 12, No. 9, P. 165). From the start there were those who considered it a hybrid between the Blue-winged Warbler (*Vermivora pinus*) and the Golden-winged Warbler (*Vermivora chrysoptera*) along with the much commoner Brewster's Warbler, but it was some years before this was satisfactorily proven. A second specimen, from near Hoboken, N. J., was recorded by Mr. Herrick in the 'Bulletin of the Nuttall Ornithological Club' in 1877 (Vol. 2, P. 19) and from then on more and more data were obtained, until its validity as a species was conclusively rejected.



Very Sincerely  
*Wm. L. Lawrence*

(PORTRAIT REPRODUCED FROM AN OLD PHOTOGRAPH).





Mr. Lawrence also frequently went on hunting trips in eastern Canada. These, and occasional visits to Europe with his wife, were the sum of his travels, and he lived an entirely quiet and retired life with his family. He became a director of the Union Square Savings Bank in New York and for many years was treasurer of St. John's Episcopal Church in Lawrence. His clubs were the St. Nicholas, The Rockaway Hunt, and the Flanders Club, a shooting organization. In 1904, Mr. Lawrence's wife died. He had no brothers, but four sisters, and thereafter he spent much of his time with one of them, Miss Caroline Lawrence. His son went to Annapolis and during the World War was in the hazardous submarine service.

After his marriage Mr. Lawrence's ornithological activities ceased, although he maintained to a certain degree his early interest in and knowledge of ornithology. He had been unable to attend the Founders' meeting of the American Ornithologists' Union, but was elected an Active Member at that meeting, along with his distinguished uncle, and when the classes of membership were changed, he became a Fellow and in 1913, at his request, became a Retired Fellow. The only meeting of the Union which he attended was at Philadelphia in 1921 when he accompanied his cousin, Dr. Spencer Trotter. However, for a number of years, he attended the meetings of the Linnaean Society of New York.

Mr. Lawrence was exceedingly good-looking with a fine complexion and good color, and was always well and strong. He possessed a wonderful disposition, always being cheerful and hopeful when things went wrong. He was very popular and genial even when meeting people for the first time, and was much sought after by his friends.

Mr. Lawrence's contributions to 'Forest and Stream' were:

1. Notes on several Rare Birds taken on Long Island, N. Y., an interesting paper. (Vol. X, No. 13, p. 235).
2. Loons Breeding at the Schoodic Lakes, Maine. (Vol. XI, No. 16, P. 320).

To 'The Nuttall Bulletin':

3. The European Widgeon in the United States. 1878, p. 98.
4. The Ipswich Sparrow on Long Island, N. Y. 1878, p. 102.
5. The Greater Long-beak. (An argument offering specific differ-

ences between the Dowitcher and the Long-billed Dowitcher, in which he is supported in the same number by George N. Lawrence.) 1880, pp. 154-157.

To 'The Auk:'

6. Long Island, N. Y., Bird Notes. 1885, pp. 272-274.

7. European Widgeon in Long Island, N. Y. 1902, pp. 195-196.

*Rhinebeck, New York.*

## BRITISH BIRDS AT A GLANCE.

BY BAYARD H. CHRISTY.

A WORD of apology is inevitable. Such first-rate observers as Dr. Charles W. Townsend and the late Henry Oldys have in past years brought to the Union their observations upon the bird-life of Great Britain; and all are acquainted with what John Burroughs has written. Two things remain still to be said, in justification of another paper on this subject: one is that each experience is unique; it must needs have some content peculiarly its own; the other is that the subject deserves to be kept fresh in mind, however feeble the presentation.

The first surprising discovery which the American ornithologist makes when he visits Great Britain is, that the bird life there is very much like the bird life at home. In a way, he may be prepared; he may have learned what to expect; but no amount of book knowledge can take away his first delight in the familiar aspect in which the birds appear. The Rook, the Jay, and the Titmouse; the Swallow, the Thrush, and the Swift; the Flycatcher and the Finch—each is the counterpart of a creature known and loved. As for the Blackbird—what is he but a dark-colored Robin? A finer singer, to be sure; but his form is the Robin's, his habit is the Robin's, and his speckled-breasted children look like the Robin's own—and cry like the Robin's own, too.

This likeness of the birds of another land to our own was for me a re-discovery; for, immediately, I remembered that I had made it before, when a few years since, after crossing the Pacific, I found myself in the October forests of Lake Chiuzenji, in Japan. There the scream of a Jay, the lisp of a Titmouse, the *klink* of a Woodpecker advised me in advance, what kind of bird it was that I should see. The fact is that, though we travel the world around, to east or west, we shall find less change in the aspect of nature, whether in bird or beast or flower, than in a range of a thousand miles or two thousand, southward into the tropics.

This has its explanation, of course, and its teaching; and the geographer and the geologist stand ready to aid our comprehension, for likeness in form and habit means nearness in relationship—a

nearness which is understandable, when we have been reminded that in the not-distant past, geologically speaking, the northern regions in which the continents approach and merge together enjoyed a salubrious and life-nurturing climate. It is from an arctic garden of Eden that these scattered but kindred races are sprung.

When once the visitor has grown accustomed to this likeness of the British avifauna to his own, immediately he begins to perceive, beyond a general likeness, particular and rather bewildering instances of disparity. I have in mind two. The first came to my attention late in May, when on a visit to a country seat in Wilts. There, in a forest of ivy-grown oaks—a forest of such richness and fullness of verdure as in America is not to be found northward of Virginia—I found the Tree Creeper at home, flitting from trunk to trunk, manifestly a summer resident. But in America the Creeper belongs to the Canadian fauna, and visits Virginia only in the winter-time. The second instance comes from southern Ireland. In a deep dell which opens to Bantry Bay, and in a lovely green translucence under the June sun, Gold-crested Wrens were moving through the holly trees. I could scarcely believe it, and was careful to verify my recognition of their thin, triple notes by sight through field-glasses of the little creatures themselves.

Cases might be multiplied; they are not far to seek; but these will serve to illustrate a contrast. The flora of Britain, compared with that of America, is full and varied; its luxuriance is a joy to the visitor. Plants and trees of differing species; plants which with us are distributed over wide ranges of latitude, here in the British Isles flourish in indiscriminate and equal profusion: the oak and the willow together, the birch and the holly. In the Irish dell of which I have spoken harts-tongue ferns and brakes were springing side by side; wild foxgloves were blossoming; and in dooryards not far away stood fuchias, ten, twenty feet high, hung with their bells. But with the birds the case is quite different.

The bird life of Britain, to American understanding, instead of being of correspondingly wide, is of narrow scope, and is northern, not to say boreal, in aspect. I have mentioned the Creeper and the Kinglet. I would add the Titmouse, the Linnet, and the Bullfinch; the Wheatear and the Tit-lark; the Mallard and the Curlew; in Scotland even a Ptarmigan is found; and along the coasts every-

where are the ocean birds of Labrador—Guillemots and Puffins and Black-backed Gulls. These all abound, and, along with their presence, the absence is remarkable of such resplendent forms of tropical association as in America are found in Tanager, Hummingbird, Oriole, Rose-breasted Grosbeak, and Cardinal. There is, then, this contrast: in America, beyond the northward range of plants of southern association, southern birds abound; in Great Britain, conversely, amid a flora inclusive of sub-tropical forms, the bird life is distinctly northern. The causes which have worked to such strangely unequal ends are not far to seek.

The British Isles lie subject to the gentle influences of both sea and sky; the Gulf Stream bathes their shores while in their high latitude, during the early summer, the hours of daylight are greatly prolonged. The American continent, along its eastern coast, though subject in its southern part to the same Gulf Stream, is in its northern part subject to the cold touch of an Arctic current. These dissimilar influences have doubtless had their part in bringing about such dissimilar results. Even in the dark winter, along the coasts of England and Ireland, it never grows very cold; throughout the wide summer it never becomes very warm; and there is much rain. In consequence, vegetation is lush and dense; and southern plant forms are not checked in their northward trend. It is the coolness of the summers, however, which seems to be a controlling circumstance in the distribution of the birds. Species which otherwise would retire northward to breed are content to remain in the relative coolness. On the other hand, there is no such inducement as the heat of the American summers seems to afford, to attract tropical forms northward.

In Great Britain the flow of migration is gentle. There is nothing comparable with America's May-time rush of Wood-Warblers, bright and parti-colored as butterflies, from the tropics to the northern forests. By way of contrast, the resident portion of the bird population is relatively great; a large number of species never leave the islands. Equibility of climate manifestly has tended to produce that state of affairs, and insularity has tended to the same end, for it is only under necessity that land-birds dare to cross wide expanses of ocean. And because of isolation through thousands of years, many of the resident species of Great Britain have grown



somewhat unlike their continental counterparts. It is rather interesting to find in Great Britain's avifauna twenty-five or thirty forms which differ sub-specifically from the general European stocks. There are, for example, the British Bullfinch, the British Tree Creeper, and the British Great Titmouse, each consistently different in some detail of form or color from birds of the same sort beyond the Channel. More than that, there are even varieties, as between island and island; there are the British Jay and the Irish Jay, the British Red Grouse and the Irish Red Grouse; there are the Hebridean Song Thrush, and the St. Kilda Wren, each a race apart, as the names indicate.

In accord with the northern cast and quality of the bird-life, the colors of the British birds are subdued. Instead of butterfly splendor, there is the cool beauty of contrasting black and white, clean gray and fawn color. The brightest note of color is that of the Bullfinch's breast, and it is like the glow of a ruddy cheek in winter. There are, besides, those jewel-like ornaments of the Kinglet's crown, the Chough's beak, and the Waxwing's beaded remiges.

It is an island country; great friths or loughs indent the coasts; the rivers widen and are lost in deep estuaries. No spot in all the land can be more than one hundred miles from salt water. And, in consequence, the water-birds and the maritime birds form a very large element in the bird life. In this sense, all the country is sea coast. Gulls everywhere follow the plow; Shore-birds and Ducks of many species nest throughout the land; even pelagic forms, such as we scarcely know by name, are acquaintances of every British bird-lover.

The quasi-domestic birds, the Pigeon, the House Sparrow, and the Starling, maintain in the British Isles substantially like status as they have achieved in America; and when I include the Starling in this generalization, I have in mind the Starling as it already has established itself in our eastern states, from Virginia to Massachusetts, and westward to the Mississippi. The Starling in Great Britain, though abundant, seems to be generally well regarded, nor could I discover any evidence that its abundance is prejudicial to other species, unless it be to the Woodpeckers. Though I made a list of ninety-four British birds, I saw no single Woodpecker. The smaller hole-nesting species—the Titmice, for instance—manifestly suffer nothing from the Starling.

The English Sparrow is, of course, not English; of that we are sure, even though we may not know with precision the spot whence he has spread over the earth. The accomodation which the Sparrow has made is an accomodation, not so much to the life of man, as to the life of the horse. The stall and the box-car have been his traveling quarters; and from our cities, where once his chattering thousands swarmed, with the horse he has disappeared. The recent observation that this bird's affinities are with the Weaver-birds invites the thought that in all likelihood with the horse he has come from a source in the Levant, a region well within the range of the Weaver-bird family.

That grouping of certain birds as quasi-domestic, however convenient, certainly is superficial, and cannot endure under closer observation. The truth is that practically all birds in greater or less degree, favorably or unfavorably, are responsive to the presence of and to the activities of their fellow mortal, man. Doubtless the Gulls in the harbors, the Rooks on the hillsides, the Corncrakes in the meadows, and the Swifts and Jackdaws in the towns, all abound today in numbers far exceeding those of their ancestors in the rugged and sparsely inhabited Britain of a thousand years ago; doubtless the Raven and the Chough and the birds of prey were then vastly more abundant.

The cause of bird protection, manifestly, has not been carried so far in Great Britain as in America; but, manifestly, the need for bird protection is there not so great. In Ireland particularly there was evidence of such laxity as could not in this country be tolerated. The practice of caging song-birds is universal. Goldfinches and Mistle Thrushes are favorite captives; to find them singing from dirty little cubicles hung high on the walls of the dreariest of the Dublin alleys was a moving discovery. Egg-collecting is indulged in without serious restraint. At Glengarriff I encountered a young fellow of twenty exhibiting his collection—not with scientific, but with purely acquisitive interest. Form, pattern, rarity were ends in themselves. I spoke to him of the Ravens, and of my pleasure in finding them in the neighborhood; but there was no responsive emotion. Instead, he began, as collectors will, to discourse on the destructiveness of Ravens: how they mount upon the backs of sheep and pluck out their eyes, and kill them by pecking on their

skulls. I happened a few days later, on a mountain overlooking Killarney, to fall in with a shepherd, and stopped to chat with him. I told him that I was interested in the birds and asked him what birds he found on the mountain. "Partridges," he said, "and Grouse; Hawks, Rooks, and Ravens." "Are the Ravens destructive?" I asked, "Do they ever attack the sheep?" "No," he replied, "I never saw such a thing. They do no harm at all." And he pointed where on a precipice beyond the heather-grown slope the Ravens had in the spring been nesting.

One Sunday afternoon on a great beach in County Leitrim I came on a band of children playing in the surf. Beside their scattered outer garments they had carefully deposited a little heap of lovely eggs, the treasure from a raid upon a Tern colony not far away. The children's faces were all bright with an eager excitement in which I could not but sympathize, but I doubt whether, for all my effort, the thought found lodgement with any of them that, if the eggs were taken, the time would come when there would be no Terns.

The laws of the Free State lie before me. In two counties—no more—five species of birds—no more—are protected the year round: the Goldfinch, the Siskin, the Linnet, the Red-poll, and the Skylark—all familiar as cage-birds. Elsewhere, even these five may at some season be taken and killed; and everywhere at some season, if not at all seasons, the other three hundred species may be taken and killed. In seven counties the nests of a few species are protected; but, beyond that, there is no protection. And in Great Britain, too, the general laws are, to our thinking, quite feeble.

It is not, however, for a moment to be supposed that the people of the British Isles are less responsive than we to the charm and to the value of the birds, nor less solicitous for their well-being. There is, for example, the case of the Swan.

As we travel about the British Isles, whether by rail or by motor, we find to our admiration this great, handsome bird in fair abundance; its form graces the lakeside landscape; its whiteness gleams from shadowy castle moats; there is hardly a pond or gently flowing stream in all the land where Swans are not to be found. The case of the Swan does not stand alone. There is the Moor-hen; it nests

even in London itself, in the gardens of Kensington Palace. And there are the Coot and the Corncrake, the Lapwing and the Wood Pigeon. All flourish and abound amid a population denser than ours; whereas our corresponding species have disappeared more or less completely. Again there is need of a word of caution. It is not sufficient to say hastily that Americans are inherently a more destructive people. In England there is an immemorial sentiment in favor of Swans and Moor-hens and Wood Pigeons; they are to be left alone. Lacking the tradition, there remains with us no restraint upon a primitive anarchial impulse to take and to destroy.

There is a disparity in social conditions, a disparity of which it is easy to give some hint, but exceedingly difficult to give an adequate statement. The Killarney Lakes are a beauty-spot of Ireland, one of the famous places of the world. Thousands of tourists visit them every summer, and yet to this day they continue part of the wilderness. Forested mountain sides and sloping pastures close them about, their shores are untrammelled. Ducks and Herons, Gulls and Cormorants wing over them; and great salmon are daily brought dripping from their waters to the market. Could such conditions exist in America; or, existing, could they continue? Let any one who doubts consider the case of Lake George, or that of Lake Chautauqua, or of Conneaut. Along the shores of the Killarney Lakes on one side extends the Muckcross estate, and on the other that of the Earl of Kenmare; and between, like a gem in a casket, Killarney lies guarded from spoliation.

With us, what with the cutting away of forests, the drainage of swamps, the wanton and unrestrained pollution of streams, wild life has been destroyed wholesale; and, in the extremity of alarm, some generous-minded people are doing what they can to restrain, to save, and to restore. In Great Britain, by way of comparison, the estates of the nobility, their parks and their pleasure grounds, their Grouse moors and their salmon streams, have been and are wild-life refuges of vast extent and of a potency easy to recognize, even though hard to measure.

These estates were to me a revelation. It was not the velvety terraces merely, the profuse and lovely flowers, the lakelets and the fountains which surround the castles; it was the great expanse of forests, too, the mountain slopes, and the silvery streams. I looked

out upon miles of forest, planted and arranged with the same exquisite intent as was manifest in the half acre at my feet; and I learned about the man who planned it all—Capability Brown, they called him. He lived in the eighteenth century. He planned what he knew he never should see; but I saw and enjoyed what he intended. Such merging of the individual in the life of society is strange to American ways. But it moves to admiration. It is because of these great estates, chiefly, that old England is today as rich in wild life as is young America; in them lies continuing sanctuary, such as America well may envy.

My praise of the British, however, in this respect is not unqualified. Her advantage is in some sense an accidental one; and, where opportunity has appeared for a show of idealism, selfishness has there, too, prevailed. W. H. Hudson has spoken with sufficient scorn of the system of game-keeping and of its effect in the destruction of the birds and animals of prey, and allusion to what he has said will suffice. I spent five weeks in the open. I saw a fair number of Kestrels, one Merlin, one Harrier, two or three pairs of Buzzards, two pairs of Peregrines—and no more.

The Eagle is gone, the Osprey is gone, the Buzzard is all but gone. The Raven clings desperately to the mountainous coasts and is said to be regaining some ground—perhaps in consequence of a betterment of the public mind. Rarest of all the *Corvidae*, I found the Chough still holding a place along the north coast of Ireland. In Belfast I sought out the ornithologist at the museum. In telling him of where I had been and of what I had seen, I spoke of Rathlin Island and of the sea-birds in their multitudes nesting there. "And did you see the Choughs?" he eagerly inquired. I was happy to reply that I had indeed seen the Choughs.

Compared with England, Ireland is less fortunate. More beautiful than England, Ireland has suffered more. Ireland ever has been the victim of ruthless war and of selfish ownership. In warfare one purpose has been active—to render the land uninhabitable; and through the centuries the chief concern of the owners of Irish estates has been to wring from them the last penny. In consequence, Ireland is a deforested and denuded land. Her forest-living birds are few; the large Hawks are gone; and, water-birds aside, the abundant species are the Buntings, the Larks, and the Pipits, birds of the hedgerows and of the open places.



It is fair to say, in comment upon the British game-keeping system, that it is effective. Even in the course of my casual wanderings I made acquaintance of practically all of the upland game-birds—of the Partridge, the Blackcock, the Red Grouse, both of England and of Ireland, the Snipe, the Woodcock, and the Curlew. The visiting Englishman could hardly do as well in America.

Birds of prey and game-birds aside, the bird life of Britain is vastly interesting to the visitor. Birds abound by the wayside and in the forest, along the shore and upon the heath, filling their place in nature, winning their way to the hearts of men of goodwill.

It is expected of the visitor from abroad that he shall say something of bird-songs. Inevitably he is asked what he thinks of British bird-songs, in comparison with those of America. But how can he answer? how can he make comparison? The delight in bird-song is so largely a matter of association that abstract valuation and comparison were quite impossible. The American Robin's song, for instance, is, musically considered, a feeble affair; nor is the quality extraordinary: a short phrase of rich notes, repeated with some variation, but disconnectedly. But is there in all nature a gladder sound than a chorus of Robins in the dawn? And how can one who his life long has heard that yearly chorus, and who hears it anew with emotions of well-being and beauty and peace—how can he lay all that aside, and evaluate the Robin's song as a stranger might? If I were to say that I found the bird-song of Great Britain on the whole less satisfying than our own, what would it signify?

The Blackbird's song—the British Robin's, as we should confusedly say—I liked best of all. His is a song, indeed. He is a Thrush, and his song is Thrush-like; it consists of phrases deliberately uttered. The phrases are varied, and the tones are rich and full and sweet; there is in them the wood-wind quality which we find in our Baltimore Oriole and Rose-breasted Grosbeak. Unhesitatingly, I should place the Blackbird in the first rank of songsters.

The British Finches pleased me less; their varied lays seemed to me feeble and wiry, lacking in sweetness. The true Robin's notes are charming; and I was greatly delighted with the song of the Willow Warbler: it has a sweet cadence which gives more pleasure, the better one knows it. The Wren's song is a fine performance,

superior to our House Wren's; in pattern, it resembles the Winter Wren's (and therein is revealed again that northern association of which I have spoken)—but it is not so sweet.

Doubtless the most famous of all bird-songs is the Skylark's; even the Nightingale's, in the world's esteem, takes second place. It is possible to analyze the Skylark's song, somewhat as I have, in what I have said, analyzed our Robin's, and to say that, musically considered, it is not extraordinary. There are others finer. But the "rain of melody" which the Larks shower down from the open sky is incomparable, bewilderingly delightful. To hear it is to agree: this, all in all, is the finest, the most moving, of all nature's voices; to hear it, as I heard it, over Stonehenge, and to comprehend that through the ages this same sweet music has floated above the plain, is to add wonder to delight.

It remains to speak of the great pleasure of making new acquaintances. I suppose that I shall not again, in so brief an interval of time at least, add ninety-odd names to my personal list. There were particularly memorable adventures, at some of which I have hinted: Buzzards swooping and screaming above the precipice at Lynmouth; Curlew calling over Exmoor; Ravens croaking about the cloud-veiled Irish peaks; Terns, rosy as shells, hovering in the sunlight above their nesting-ground; the sea-birds thronging the cliffs of Rathlin Island, coming and going like people on city streets, and to and fro across their paths with easy, consummate agility, the Fulmars ever sailing and sailing. What man, bird-lover or no, could be insensible to these things?

Our interests are not limited to the little field of individual life; we, too, as well as the creatures we study, have a race experience, and Great Britain is the land of our fathers. Is it nothing to know that they trod these roads and tilled these fields? Is it nothing to note the "temple-haunting martlet," and to remind ourselves that this little bird's "loved mansionry" was loved of them? In Ann Hathaway's cottage I fell behind the trailing queue of tourists and allowed the endlessly repeated words of the custodian to fade wearily from my ears. Thinking that the capacity of response was dead within me, I turned to an open window, and would give my mind to other thoughts. A sunny garden lay beneath, apple-trees were in blossom, a Thrush sang; and in a sudden wave of

emotion I understood that here was Shakespeare's England: that I was sharing with the great man the eternal beauty of the world.  
*Sewickley, Pa.*

METHODS OF INDICATING RELATIVE ABUNDANCE OF  
BIRDS.

BY LEE R. DICE.

THE problem of population is vital in any study involving ecology or economics, and an easy method of determining bird populations would be most useful. A complete census of the actual numbers of each species present per acre would undoubtedly be most valuable, but unfortunately is time consuming and difficult of perfect execution. A simpler method would be welcome even if it gives only a statement of relative rather than of actual numbers present.

Everyone is familiar with the usual relative terms such as "rare" and "common." These terms are well known to be vague in their limits and they are applied differently by different observers. Even the same observer will vary in usage from time to time, especially when applying the terms to diverse groups, such as Sparrows and Eagles.

Recently it has been suggested by Kenoyer<sup>1</sup> that the relative abundance of birds and other animals might be expressed by the method developed by Raunkiaer and Gleason<sup>2</sup> for plants. In this method no count is made of individuals, but the species are listed on each of twenty-five or more quadrats in the same habitat, each quadrat being of the same area.

As applied to birds this method would involve the listing of the species present on each of a number of unit areas, each area (quadrat) being of a size large enough to give a good sample of the bird population in the habitat under study. Perhaps each area could be considered to include ten yards on each side of a trail or path for a distance of one-hundred paces.

According to the method of Raunkiaer, if a species is present on each quadrat studied it has a frequency of 100%; if only on one quadrat out of twenty-five it has a frequency of 4%. It is found by Raunkiaer that the greatest number of species in any flora are those of low frequency (rare or few); a lesser number are of

<sup>1</sup> L. A. Kenoyer, *Ecology*, Vol. 8, pp. 341-349. 1927.

<sup>2</sup> H. A. Gleason, *Bull. Torrey Bot. Club*, vol. 47, pp. 21-33. 1920.

high frequency (common or abundant); while the intermediate frequencies include the fewest number of species.

More recently an adaptation of the Raunkiaer method to the relative frequency of occurrence of birds has been made by Linsdale.<sup>1</sup> On an area in Kansas the bird species observed were plotted on a frequency curve, using time units (days) instead of space units (quadrats). The number of times each species was recorded is expressed as a percentage of the number of days on which observations were made. The results are certainly of value, but could have been made more useful by keeping the lists for each habitat separately. The field work was, however, not done with this point in view.

Several years earlier Grinnell and Storer<sup>2</sup> had proposed a method of showing relative abundance of birds by listing the number of individuals of each species noted during each hour of field observation. The suggestion was that time instead of space be used as the unit of comparison. No attempt was made by these authors to apply any statistical method of summarizing the data obtained.

It seems to me that the use of hours, or better still, half-hours, would give better statistical results than the use of days. The lists made for each of a series of half-hours by one observer can be grouped and the frequency of occurrence of each species expressed as a percentage. Account should of course be taken of the time of day, for it is well known that birds are more active during certain hours. Attention must also be paid to the season, and if any demonstration of migratory movements is expected one could not combine records covering more than about one-tenth of a month.

I should like to emphasize the importance of keeping independent lists for each kind of habitat. We are coming to realize the importance of habitat in determining the presence or absence of birds and of other animals. Statements of the relative abundance of birds for a given region are not nearly so valuable as would be statements of the relative abundance of the birds in each kind of habitat in the region. We suspect that much of the decrease in the numbers of game and song birds is due to the destruction or

<sup>1</sup> Jean Linsdale, *Condor*, vol. 30, pp. 180-184. 1928.

<sup>2</sup> Joseph Grinnell and T. I. Storer, *Animal Life in the Yosemite*, p. 22. Berkeley. 1924.

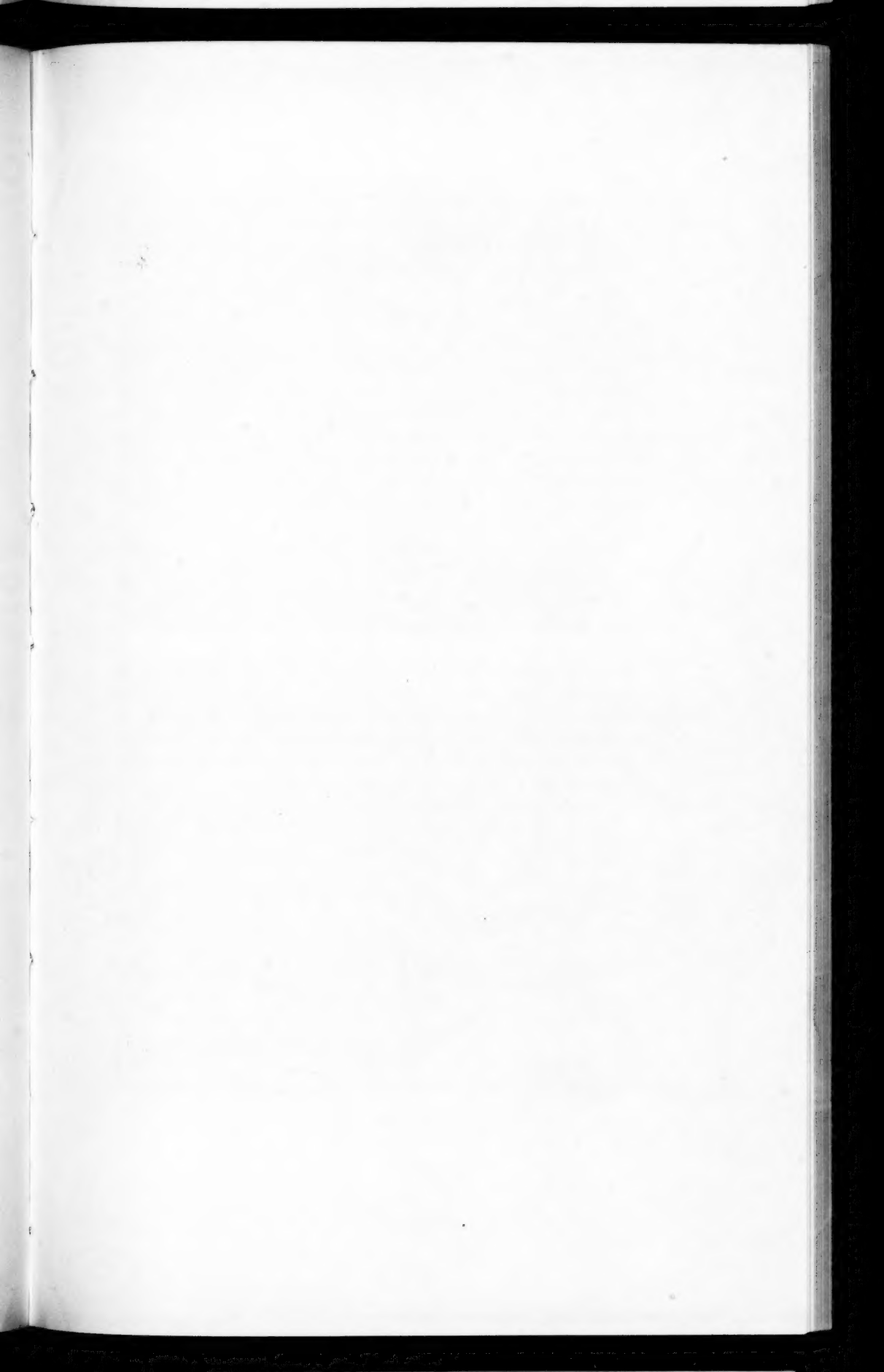


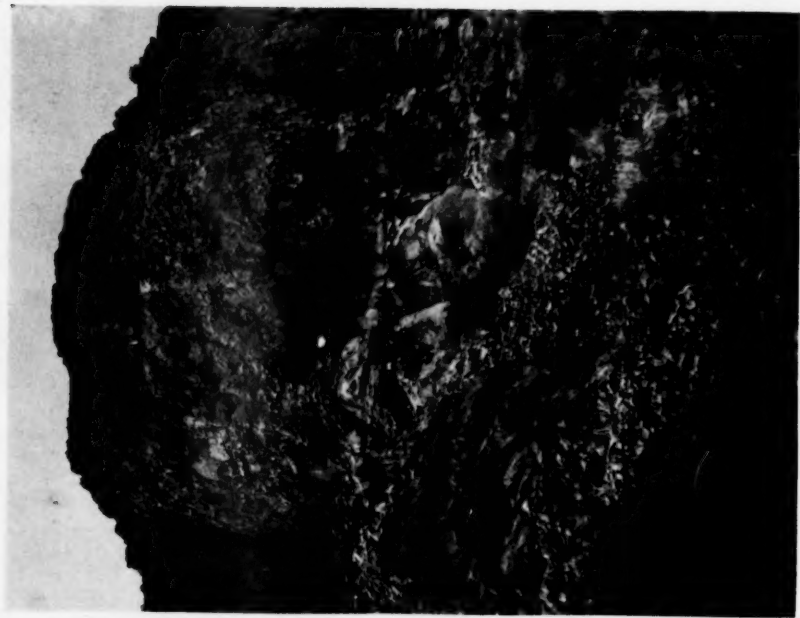
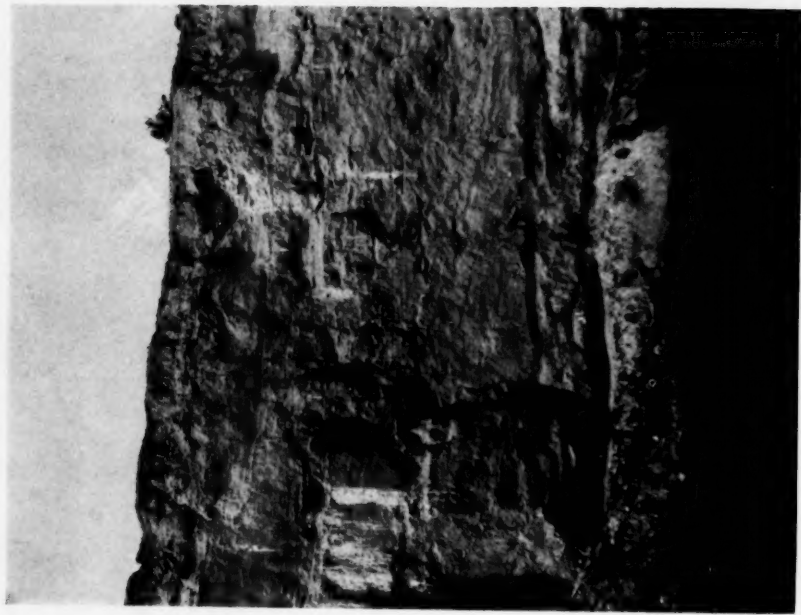
alteration by man of their natural habitats. Any information bearing on the relative importance for the birds of the various kinds of habitats will be of value in determining policies leading towards the preservation and encouragement of the bird fauna.

There are certain errors inherent in the proposed method of stating the relative abundance of birds. It is evident that nocturnal and secretive forms will often escape record. Also, those birds that go in flocks will be given too low a relative frequency. One hundred birds in a flock will be recorded only once by the observer and appear as but one record in a list; while the same one hundred birds scattered evenly over a habitat would likely be included in a number of lists. But in general the method should give useful figures for comparative abundance, and at a minimum of time for field observation.

Many ornithologists make lists of the birds seen on their field excursions, but as a rule little use is made of these lists afterwards. I would urge that a fair trial be made of the method of keeping these lists by half-hours in the field and by habitat, so that the percentage abundance of the several species can be computed, and thus give a statistical picture of the bird fauna of the region. All these bird lists cannot be published, but the summaries could be printed in a relatively small space and would be of high value for comparison with other regions. The lists will become of greatest dependability when they are the averages of numerous accurate lists submitted by many observers.

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NESTING SITES OF THE PRAIRIE FALCON AT TOP OF CLIFFS.

## THE PRAIRIE FALCON IN THE STATE OF WASHINGTON.

BY F. R. DECKER AND J. HOOPER BOWLES.

*Plate III.*

WEST of the Cascade Range, in Washington, the Prairie Falcon (*Falco mexicanus*) can be rated as only an extremely rare fall and winter visitor, the three records we have of specimens taken being as follows:—a female taken on the Tacoma Flats on February 18, 1923 (Murrelet, Vol. IV. No. 1); a female on the Nisqually Flats on October 23, 1927; and a female taken at Roy on January 2, 1927. These locations are all within a few miles of the city of Tacoma, Pierce County, Washington.

East of the Cascades, however, the species may be rated as a fairly common summer resident in localities that are favorable for them, though much less common in winter when the spirit of migration is upon them. At this season they must in many cases drift far from their nesting grounds.

It is during the nesting season that they are to be seen at their best, and when their habits may be studied to the greatest advantage. For some years past the writers of this article have given very close attention every spring to the study of these birds and we hope that our findings may prove of general interest and, perhaps, bring to light some new phases in the nesting habits of this very spirited and interesting falcon of the desert country.

In our experience the locality chosen for the nesting site is almost invariably the outcroppings of rock that are to be found here and there all through the sagebrush desert country. These outcroppings vary from mere surface showings to towering cliffs three or four hundred feet in height, which are perpendicular in a majority of instances. The cliffs are liberally punctuated every here and there with what are known as "potholes," which vary in size from a few inches to several feet in diameter, but which seldom penetrate into the rocky wall more than two or three feet. These potholes are among the favorite nesting sites of the Prairie Falcon, but they are also often used for the same purpose by the Raven, Sparrow Hawk, Western Red-tail, Horned Owl, Ferruginous Rough-

leg, Rock Wren and other cliff-loving birds. The two larger Hawks do not often use the potholes, preferring to build their nests on ledges. A cliff may have a pair each of all four of these large raptors, as well as a pair of Ravens, nesting in fairly close proximity to each other with no apparent friction between them, for of course the Sparrow Hawks and other "small fry" are so insignificant as to be beneath the notice of their larger cousins. It is only when some outside disturbance occurs that they seem to show any enmity toward one another. One example of this occurred on a cliff that jutted up from the border of a small lake, the cliff having been chosen as a nesting site by a pair each of the Prairie Falcon and Western Red-tail. While examining the location we found that someone had shot a bird from each pair, oddly enough it being the male Red-tail and the female Falcon, their bodies lying on the ground close to their respective nests. The remaining parents had continued to "carry on," however, and the young that both nests contained seemed to be in excellent condition. When we appeared upon the scene and worked around close to the cliffs we started a very interesting disturbance between the two birds, both of which showed the greatest solicitude. Their previous unfortunate experiences with mankind had evidently taught them to keep well out of gunshot range of human beings, but the Falcon was apparently so angry that he had to give vent to his feelings on something, the nearest available object being the poor female Red-tail. Consequently we were treated to a most marvellous exhibition of what can be done by two trained experts in the art of flying, and the unusual and graceful movements of the Hawk were as thrilling to us as they were unexpected. The Falcon would mount high in the air over her and then drop down upon her like a meteor until so close that it seemed inevitable he must tear her in pieces. Then, just as he seemed upon the very point of striking her, the Hawk would turn gracefully back downward and thrust her great talons up at the approaching Falcon. Then there seemed no possible chance of avoiding a collision that would have meant almost certain death to them both, but always the Falcon would swerve in the very nick of time, missing by the merest fraction of an inch. This most interesting performance kept up until we left, but, it seemed that misfortune would be sure



to happen to the birds if we stayed, so we very regretfully left them to settle down to their normal conditions of life.

Another interesting incident showing the vindictive temperament of the Falcons occurred when we were collecting a set of their eggs from a pothole well up in the face of a high cliff. After the usual preliminary dashes and outcries that the birds always shower upon an intruding man they seemed to realize the futility of their attacking us and left, flying several hundred yards down the cliff where they kept pitching at a large pothole that was there. They would swoop almost into it and then dart away with wild cries, so we felt certain that something else of unexpected interest was in store for us. Walking down to almost directly beneath this new hole we were surprised to find that all the noise we could make failed to bring any sign of life from the cavity, which we could see contained the old nest of a Raven. It seemed impossible that the Falcons had been simply playing us a trick, so the men on the cliff above let a rope down and slapped it against the hole. This was no sooner done than the entire entrance was blotted out by an immense female Horned Owl as she came off her nest, which, incidentally, contained three slightly incubated eggs.

While potholes, as above mentioned, are perhaps the favorite nesting sites of these birds, they are by no means the only kind selected. In many cliffs there are no potholes at all, but on some projecting ledge of rock a Western Red-tail or a Raven will have built its nest during some past season, and it is the old nests of these two species that are very commonly used by the Falcons. In fact, in many localities the abundance of the Falcons as breeding birds depends entirely upon the presence of the old nests of these other birds. An instance by way of proving this statement occurred to us in the past spring when we visited a cliff where the year before we had found a Falcon using an old Raven's nest. The nest had been dislodged by the winter storms and, as there were neither old nests nor potholes, there were no signs of the Falcons to be found anywhere in the vicinity. This is only one case in several that we have noticed. In our experience the Falcons will always return to the old nest, even though the rightful owners wish to take possession themselves. A very interesting example of this was given us in the past spring of 1928, a somewhat detailed account

of which may be permissible. The nest in question was that of a Western Red-tail, which was situated on a ledge about twenty-five feet from the ground and some forty feet below the top of the cliff. We had taken a set of three eggs of the Hawk from this nest in 1926, and in 1927 we had found it occupied by a Falcon with five eggs. Going to it in 1928 we at first thought it deserted as no bird could be seen, but, upon going directly beneath it and shouting, the Falcon flushed with her customary fierce challenge. Much to our pleasure the nest contained five eggs of the Falcon and, to our great surprise, one egg of the Red-tail, all of which were perfectly fresh. The poor Hawks had been through a very hard spring, as they had built a nest about half a mile distant across the river and had their eggs eaten by Ravens. Of course we had no means of ascertaining the course of events, but it would have been most interesting to know if the Hawk had laid its egg before or after the Falcons had taken possession of the nest. It is highly probable that the Falcons could and would drive away the rightful owner, if they wished to do so, even though the Hawks had taken possession first. However, on the other hand, it seems highly possible that the Ravens had destroyed an incomplete set in the new nest and the Hawk had then taken advantage of a temporary absence of the Falcons and laid the egg to complete her set in her nest of a former year.

The friendly relationship existing between Falcons and Ravens, that are both nesting in the same cliff, is nothing short of astounding, especially when we consider that a Raven is perhaps the most "dyed-in-the-wool" egg eater in the animal kingdom. It is fairly safe to say that in seven cases out of ten a pair of Ravens will be nesting in the same cliff that is occupied by a pair of Falcons, the nests in many cases being only a few hundred feet apart. Yet strangely enough we have never seen a sign of friction of any kind existing between the two species. When we first commenced our studies of these birds we always were fearful that the Ravens would eat the Falcon eggs before the set was complete. However, this has never occurred in all of the many instances that have come under our observation, the Falcons paying little or no attention to the Ravens at any time. The reason for this may, perhaps, date back to some past generations of the Ravens who learned

through bitter experience that it was far the wisest thing to make the contents of a Falcon nest the exception to their general rule of eating eggs and baby birds. Perhaps this knowledge has been inherited by the present generations. One thing absolutely certain is that the Falcons "rule the roost" and do exactly as they please in the selection of nests, the poor Ravens simply taking what the Falcons do not want and making the best of things. As a rule the Ravens lay their eggs about a week earlier than the Falcons, but the latter have apparently already selected the nest they want and the Ravens usually build a new nest for their first set. If the contents of the nests of both species are removed they will usually lay again in the same nests, but they occasionally trade nests, so to speak, the Falcons taking the Raven nest for their second set and the Ravens going to the former nest of the Falcons for their second attempt. Yet in all this switching around we have never seen any signs of discord between the two species, trying as it must be on their tempers.

The female Falcon according to our experience always incubates the eggs. She is an exceedingly "close sitter," as a rule, and for some reason will remain with her eggs when in an open nest, such as a Hawk's or a Raven's, almost to the last extremity, while in one of the pothole nests she may flush at some little distance. The period of incubation does not seem to influence her actions in this respect to any great extent so far as we have seen. We had one most fascinating exhibition of a close sitting bird at one site where an old nest of the Raven was used. One of us was walking along the top of the cliff, while the other walked along at the base, the man at the top being considerably further in advance. Presently a nest was sighted at very close range with the bird crouched upon it and most intently watching the man below her. The man at the top made very little noise and she had not seen him, so he had a perfect opportunity to study her. She flattened herself down into the nest so far as to be completely out of sight from any direction excepting directly above and remained in that position until the man below was almost up to her. Then she stood up in the nest and commenced her battle cry that gives such a never failing thrill to the bird lover, not leaving until she knew it was useless to remain any longer.

In its action around the nest we have never known a Falcon to actually strike a human being, but they occasionally give the collector very unpleasant moments on his rope when they plunge and scream around his head. During these demonstrations it is the female who is almost invariably the more aggressive of the two, as the male usually contents himself with flying around and screaming at a comparatively safe distance. The cry may be described as a shrill yelping "kik-kik-kik-kik-kik," repeated over and over again. It strongly suggests a combination of the cackle of a Cooper's Hawk (*Accipiter cooperi*) at its nest and the alarm notes of the Greater Yellow-legs (*Totanus melanoleucus*).

Where neither potholes in cliffs, nor old Raven nests are obtainable the Falcons will resort to cavities in cut banks of earth, or a niche in some rocky wall. The result is that there is a wide variation in the distance that a nest may be from the ground. In one nest we took a handsome set of five eggs after no more of an effort than simply walking to it and picking up the eggs, while others are placed under an "overhang" of rock at such dizzy heights that we simply wished them good luck. In Washington they are, as a rule, less than sixty feet above the ground, forty feet being perhaps a fair average. We consider it as extremely doubtful if these birds ever make any attempt towards gathering material for nest building.

The number of eggs laid in a set, if the nest has not been previously disturbed, varies from four to six, five being perhaps most commonly found, while six is extremely rare. In shape they vary from rounded oval to rounded ovate, the average being somewhat inclined to the former. In size the smallest egg from a considerable series measures 2.00 x 1.46 inches, and the largest 2.26 x 1.60 inches. Neither of these eggs is in any way abnormal, the other eggs in the respective sets being similar, and a fair average would be midway between these two measurements. The coloring is subject to a wide range of variation, a large and well selected series making a most artistic and beautiful display. The ground color is usually dull yellowish, varying to pinkish, or light brown; one rare type being pure white. The markings are usually heavily laid on, being of almost all possible shades of brown, with frequently dottings of black. The white type is usually spotted

and blotched with pinkish brown and is very beautiful. Very rarely an egg will be of a uniform color all over, without markings of any kind. They very seldom approach the dark coloration of eggs of the Duck Hawk (*Falco peregrinus anatum*), but occasionally a set will be found where it is necessary to be sure of the birds in order to make certain of the identification of the eggs.

The food of these birds during the nesting season, so far as we have seen, consists almost entirely of cotton-tail rabbits and young Jack rabbits. Probably the enormous supply of these mammals that comes to the immediate vicinity of the nests gives the Falcons little temptation to hunt for feathered game. This seems all the more likely because ranchers living at no great distance from the nests seldom trouble the birds. In the winter, however, the contents of the stomachs that we have examined would seem to indicate a decided change in diet. A large female at Santa Barbara, California, had killed a Coot (*Fulica americana*) with which it tried to fly across the road directly in front of a horse that we were driving. The horse would certainly have trampled it underfoot if the Falcon had not dropped its prey at the very last moment. The stomachs of the winter birds mentioned at the beginning of this article all contained the remains of Western Meadowlarks (*Sturnella neglecta*). Our findings as to the food habits of these birds are admittedly very incomplete, but we give them as a groundwork for further observations.

*Tacoma, Washington.*



THE SONG PERIOD OF BIRDS OF NORTHWEST  
ARKANSAS.

BY W. J. BAERG.

*Introduction.*

THE song period of most of our birds is in general perhaps fairly well known to ornithologists; however, but little seems to have been done to determine the relatively definite duration of these periods. The paper by H. J. Fry (Auk, 1916) and the table by C. S. Brimly in 'Birds of North Carolina' are apparently the only serious attempts recorded in the literature.

In an effort to bring together sufficient material for a course on the birds of Arkansas, offered at the University, definite records of the song period seemed almost as necessary as a list of the species occurring in the region.

The observations<sup>1</sup> on the song period were begun in 1924 and are still being continued. They are made on field trips taken, during the height of the song season (March to June), three or four times a week; during the remainder of the year, about once a week. Most of the trips are made in the morning, starting between seven and eight o'clock in the spring and summer and about nine o'clock in late fall and winter. The route for these trips is so outlined that it includes all the important localities that can be found in this part of the state. The route is varied slightly as time limits will permit, and as other circumstances make necessary or desirable. Along the route are: outskirts of the town, hawthorne-smilax thickets, relatively dry oak woods, tall elms and sycamores, small swampy areas, temporary rivulets, small permanent streams, roadside thickets, and general open fields and meadows. The usual distance covered varies between six and ten miles; on an average it is about eight miles.

In these observations no attempt has been made to determine whether the singing birds were unmated, or whether their nests had

<sup>1</sup> Mr. Frank R. Smith, student assistant, has made many of the observations recorded in this paper.



been broken up; the intention being merely to observe the duration of the song period of the various species in this locality.

The song period of the various birds does not, as is well known, begin suddenly and in full, but there is a more or less gradual increase in song and a corresponding decline. Both the beginning and the decline may be very gradual and extend over a month or even longer. In the first table I have tried to give the entire song period according to our observations.

Certain weather conditions, such as low temperature, wind, extreme heat, and drought are well known to have a depressing influence on song birds. It is hoped the observations here recorded have been made over a period of time sufficiently long to overcome this source of error, at least to a considerable degree. In spite of rather persistent and serious efforts, the records for some species are not as complete as would be desirable. Some birds occurred in too small numbers along the route, others apparently were somewhat irregular in their singing, or for other reasons were not heard.

In 1924 the records are lacking for a number of species, and for many others they are obviously incomplete. For other species they agree fairly well with records obtained later when a more serious attempt was made to determine, with as much exactness as possible, the entire duration of the song period.

The species listed in the tables include permanent residents, summer residents, winter residents, and transients.

TABLE I.  
SONG PERIOD OF BIRDS.

Name	1924 (?)	1925	1926	1927	1928
Bob-white (?)	.....	.....	June 10-Oct. 22. ....	July 3-Sept. 8. ....	Apr. 28-Oct. 15. ....
Mourning Dove. ....	.....	Mar. 15-.....	Mar. 2-Sept. 6. ....	Feb. 25-Sept. 2. ....	Mar. 13-Sept. 2. ....
Barred Owl. ....	.....	.....	Feb. 13-Aug. 29. ....	.....	.....
Screech Owl. ....	.....	.....	-Sept. 6. ....	-Aug. 16. ....	Feb. 26-.....
Yellow-billed Cuckoo. ....	.....	May 10-Sept. 22. ....	May 1-Sept. 6. ....	May 22-Sept. 25. ....	May 13-Sept. 2. ....
Belted Kingfisher. ....	Apr. 4-Nov. 30. ....	-Oct. 25. ....	.....	May 15-Sept. 1. ....	-Oct. 15. ....
Flicker. ....	.....	.....	Jan. 20-Dec. 29. ....	Jan. 30-Dec. 25. ....	Jan. 11-.....
Chuck-will's Widow. ....	Apr. 15-.....	Apr. 14-July 28. ....	Apr. 23-July 18. ....	Apr. 16-.....	Apr. 17-July 20. ....
Nighthawk. ....	.....	.....	.....	June 2-Aug. 11. ....	.....
Crested Flycatcher. ....	Apr. 24-.....	Apr. 20-.....	Apr. 29-Sept. 9. ....	Apr. 18-Sept. 9. ....	Apr. 17-Sept. 2. ....
Phoebe. ....	.....	Mar. 8-Oct. 4. ....	Mar. 28-Sept. 6. ....	Mar. 12-Sept. 25. ....	Mar. 11-Sept. 29. ....
Wood Pewee. ....	.....	May 3-Aug. 27. ....	Apr. 29-Oct. 3. ....	Apr. 30-Sept. 11. ....	May 1-Sept. 16. ....
Acadian Flycatcher. ....	May 18-.....	May 19-July 26. ....	June 4-July 31. ....	May 8-Aug. 11. ....	May 1-Aug. 28. ....
Least Flycatcher. ....	.....	.....	.....	May 1-June 26. ....	May 1-May 19. ....
Blue Jay. ....	.....	.....	Feb. 7-Dec. 17. ....	Jan. 30-Dec. 25. ....	Feb. 15-.....
Bobolink. ....	.....	May 11-.....	May 23-.....	May 13-May 18. ....	May 18-.....
Red-winged Blackbird (?)	Mar. 28-.....	.....	Feb. 7-June 18. ....	-July 15. ....	Mar. 23-Oct. 7. ....
Meadowlark. ....	.....	Mar. 5-Nov. 1. ....	Jan. 7-Dec. 26. ....	Jan. 2-Dec. 25. ....	Jan. 15-.....
Orchard Oriole. ....	.....	Apr. 23-July 12. ....	Apr. 29-July 13. ....	Apr. 21-July 26. ....	Apr. 18-Aug. 11. ....
Baltimore Oriole. ....	Apr. 25-May 2. ....	May 8-.....	Apr. 30-.....	Apr. 24-May 21. ....	Apr. 27-May 12. ....
Purple Finch. ....	Mar. 22-Apr. 18. ....	Feb. 15-Apr. 13. ....	Mar. 18-Apr. 21. ....	Mar. 5-Apr. 3. ....	Mar. 3-Apr. 11. ....
Goldfinch (?)	.....	Mar. 25-Sept. 3. ....	Mar. 21-Oct. 22. ....	Jan. 30-Oct. 28. ....	Mar. 23-Aug. 28. ....
Vesper Sparrow. ....	.....	.....	Mar. 28-Apr. 8. ....	.....	Mar. 14-Mar. 23. ....
Lark Sparrow. ....	.....	Apr. 12-July 11. ....	Apr. 13-July 26. ....	Apr. 11-July 20. ....	Apr. 24-July 16. ....
Harris's Sparrow. ....	..... Nov. 16-.....	-Apr. 19 Oct. 25-.....	May 2 Nov. 5-.....	-Apr. 30 Oct. 28-.....	-Apr. 28-.....
White-crowned Sparrow. ....	-Apr. 25 Oct. 26-.....	-Apr. 26 Oct. 18-.....	-May 14 Oct. 15-.....	-Apr. 27 Oct. 16-.....	-May 6-.....
White-throated Sparrow. ....	-Apr. 25 Oct. 26-.....	-Apr. 30 Oct. 25-.....	-May 7 Oct. 22-.....	-May 8 Oct. 16-.....	-May 9-.....
Tree Sparrow. ....	.....	.....	.....	Jan. 30-Mar. 27. ....	.....

TABLE I—Continued.

Name	1924	1925	1926	1927	1928
Chipping Sparrow	Mar. 27–May 27.	Mar. 17–July 19	Mar. 23–Aug. 10.	Mar. 17–Aug. 11.	Mar. 12–Aug. 21.
Field Sparrow	.....	Feb. 4–Sept. 11.	Feb. 18–Aug. 29.	Feb. 5–Sept. 18.	Feb. 5–Sept. 14.
Slate-colored Junco	Mar. 22–	Feb. 25–Mar. 27.	Feb. 18–Mar. 28.	Feb. 5–Mar. 6.	Feb. 26–Apr. 1.
Song Sparrow	.....	Apr. 5 Nov. 1–	Apr. 10 Oct. 22	Apr. 30 Oct. 22	Apr. 28
Fox Sparrow	.....	Apr. 5 Oct. 18	Apr. 9 Nov. 5–	Mar. 13 Oct. 19	Apr. 8
Towhee	.....	Feb. 4–Aug. 20.	Feb. 18–Aug. 13.	Jan. 31–Sept. 1(?)	Jan. 11–Aug. 28 (?)
Cardinal	.....	Sept. 27(?) Dec. 30	Aug. 25 Dec. 17–	Sept. 18 Dec. 24–	Sept. 11.
Blue Grosbeak	.....	Apr. 20–Aug. 5.	May 7–Aug. 7.	May 18–Aug. 11.	May 10–Aug. 22.
Indigo Bunting	.....	May 5–Aug. 27.	May 1–Sept. 12 (?)	May 8–Sept. 27 (?)	Apr. 28–Sept. 2.
Dickcissel	May 27–	Apr. 20–Aug. 11.	Apr. 30–July 31.	Apr. 27–Aug. 11.	May 1–Aug. 12.
Scarlet Tanager (?)	.....	Apr. 23–	Apr. 21–	.....	.....
Summer Tanager	Apr. 27–June 10.	Apr. 23–July 30.	Apr. 28–Aug. 10.	Apr. 20–Aug. 11.	Apr. 21–Sept. 29.
Loggerhead Shrike (?)	.....	.....	Oct. 3–	Sept. 4–	.....
Red-eyed Vireo	May 18–	Apr. 17–Aug. 20.	Apr. 18–Aug. 29.	Apr. 15–Aug. 24.	Apr. 17–Sept. 2.
Warbling Vireo	.....	Apr. 24–May 20.	Apr. 23–May 16.	Apr. 23–May 18.	Apr. 27–May 15.
Yellow-throated Vireo	Apr. 20–	Apr. 7–Sept. 17.	Apr. 17–Sept. 19.	Apr. 10–Sept. 11.	Apr. 8–Sept. 16.
White-eyed Vireo	.....	Apr. 12–Sept. 17.	Apr. 18–Sept. 19.	Apr. 10–Sept. 25.	Apr. 8–Sept. 16.
Bell's Vireo	.....	May 3–Sept. 3.	May 7–Sept. 6.	Apr. 29–Sept. 4.	May 1–Aug. 7.
Black-and-white Warbler	.....	Mar. 27–July 12.	Apr. 2–July 23.	Apr. 15–July 31.	Apr. 7–July 14.
Blue-winged Warbler	Apr. 18–	Apr. 14–	Apr. 18–June 25.	Apr. 10–June 21.	Apr. 28–June 23.
Nashville Warbler	.....	Apr. 23–May 11.	Apr. 30–May 14.	Apr. 8–May 7.	May 1–May 10.
Tennessee Warbler	Apr. 11–Apr. 25.	Apr. 4–May 17.	Apr. 25–May 16.	Apr. 17–May 19.	Apr. 3–May 16.
Parula Warbler	Apr. 18–June 27.	Apr. 1–July 26.	Apr. 9–Aug. 29.	Mar. 27–Sept. 18.	Apr. 1–July 25.
Yellow Warbler	.....	Apr. 17–June 28.	Apr. 17–July 16.	Apr. 15–June 19.	Apr. 24 (?)–July 20.
Myrtle Warbler	.....	Apr. 3–Apr. 19.	.....	Apr. 3–Apr. 30.	Apr. 1–May 6.
Sycamore Warbler	.....	Apr. 5–June ?	Apr. 9–July 10.	Mar. 27–July 4.	Mar. 28–July 14.
Prairie Warbler	.....	Apr. 23–Sept. 13.	Apr. 13–July 1.	Apr. 11–Sept. 12.	Apr. 25 (?)–Aug. 31.
Oven-bird	Apr. 18–June 27.	Apr. 17–Aug. 27 (9).	Apr. 18–July 16.	May 6–June 26 (?)	Apr. 21–June 30.
Louisiana Water-Thrush	Mar. 28–June 27.	Mar. 27–July 26.	Mar. 29–Aug. 15.	Mar. 27–Aug. 18.	Mar. 23–Aug. 14.
Kentucky Warbler	.....	Apr. 19–Aug. 20.	Apr. 30–July 13.	Apr. 15–July 10.	Apr. 25–July 20.

TABLE I—Continued.

Name	1924	1925	1926	1927	1928
Maryland Yellow-throat.	.....	Apr. 14-July 26.	Apr. 18-Aug. 7.	Apr. 17-Aug. 18. <sup>(1)</sup>	Apr. 25 (8)-Aug. 26.
Yellow-breasted Chat.	.....	Apr. 19-July 26.	Apr. 20-Aug. 29.	Apr. 16-Aug. 18.	Apr. 25-July 23.
Redstart.	.....	Apr. 19-Aug. 20.	Apr. 21-Aug. 29.	Apr. 19-July 10.	Apr. 24 (8)-July 20.
Mockingbird.	May 3-Dec. 7.	Jan. 31-Nov. 26.	Mar. 5-Dec. 29.	Jan. 3-Nov. 5.	Feb. 5-Nov. 11.
Catbird.	.....	Apr. 30-July 26.	May 7-July 31.	Apr. 22-July 24.	Apr. 24-July 23. <sup>(2)</sup>
Brown Thrasher.	.....	Mar. 22-July 13.	Mar. 29-June 24.	Mar. 19-July 6.	Mar. 18-July 8.
Carolina Wren.	.....	Jan. 12-Dec. 26.	Jan. 7-Dec. 17.	Jan. 1-Dec. 25.	Jan. 6-.
Bewick's Wren.	.....	Feb. 1-Oct. 12.	Jan. 30-Nov. 10.	Jan. 1-Oct. 9.	Jan. 15-Oct. 14.
House Wren.	.....	Apr. 16-May 5.	.....	.....	Apr. 22-Apr. 28.
White-breasted Nuthatch.	.....	.....	May 14-Dec. 26.	Apr. 26-Dec. 23.	Feb. 5 (8)-.
Tufted Titmouse.	.....	.....	Feb. 28-Dec. 29.	Jan. 1-Dec. 25.	Jan. 8-.
Chickadee.	.....	.....	Jan. 30-Dec. 26.	Jan. 1-Dec. 23.	Feb. 5-.
Ruby-crowned Kinglet.	.....	.....	Mar. 28-Apr. 25.	Mar. 26-Apr. 24. <sup>(3)</sup>	Mar. 23-May 1.
Blue-gray Gnatcatcher. <sup>(4)</sup>	Mar. 30-.	Mar. 22-Apr. 17.	Apr. 2-June 18.	Mar. 27-.	Apr. 1-.
Wood Thrush.	.....	Apr. 25-Aug. 3.	Apr. 26-July 23.	Apr. 14-Aug. 5.	Apr. 21-Aug. 7.
Olive-backed Thrush.	.....	Apr. 21-.	Apr. 30-May 16.	May 5-May 27.	Apr. 22-May 6.
Robin.	.....	Feb. 1-Sept. 24.	Jan. 20-Oct. 22. <sup>(5)</sup>	Jan. 31-Oct. 6.	Jan. 11-Oct. 30. <sup>(6)</sup>
Bluebird.	.....	.....	Feb. 6-Dec. 29.	Jan. 1-Nov. 5.	Jan. 11-.

<sup>1</sup> Records for 1924 are incomplete for many species.

<sup>2</sup> Incomplete records.

<sup>3</sup> Records apply to song, not twitter.

<sup>4</sup> Song heard once on October 2.

<sup>5</sup> An unusually early record.

<sup>6</sup> The Cardinal's song is but rarely heard in September. In 1928 it was heard several times in October.

<sup>7</sup> Rarely heard in September.

<sup>8</sup> Incomplete records.

<sup>9</sup> Heard on these two dates and February 15, 1927.

<sup>10</sup> An unusually late record.

<sup>11</sup> Song was heard also on September 1.

<sup>12</sup> Heard song on October 19.

<sup>13</sup> The Blue-gray Gnatcatcher does not sing a great deal; as a rule it buzzes, or twitters.

<sup>14</sup> Sang also on December 26.

<sup>15</sup> The Catbird was heard singing on Sept. 16, 1928.

<sup>16</sup> In the Robin roost, near Winslow, the song will probably be heard quite regularly during November, and possibly later.

The dates given in the preceding table represent, as a rule, the days when the birds were heard for the first time and the last time in the calendar year. The song period as given in the table includes early as well as late singers. No attempt is made to distinguish between the regular song period and a recrudescence of song.

It seems worth while to present in a separate table the periods when the more common song birds sing with a good deal of regularity, leaving out especially the late singers and those which are but seldom heard.

TABLE II.

## AVERAGE SONG PERIOD.

Mourning Dove	March 1-September 1
Yellow-billed Cuckoo	May 15-September 20
Chuck-will's Widow	April 15-July 20
Phoebe	March 10-October 1
Wood Pewee	May 1-September 10
Meadowlark	All year
Orchard Oriole	April 22-July 15
Purple Finch	March 5-April 10
Goldfinch	March 20-October 20
Lark Sparrow	April 15-July 25
Harris's Sparrow	November 1-April 30
White-crowned Sparrow	October 20-May 1
White-throated Sparrow	October 20-May 1
Chipping Sparrow	March 20-August 10
Field Sparrow	February 10-September 15
Slate-colored Junco	February 5-April 1
Song Sparrow	October 25-April 10
Fox Sparrow	October 20-April 5
Towhee	February 10-August 15
Cardinal	January 1-September 1
Blue Grosbeak	May 1-August 10
Indigo Bunting	May 1-August 20
Dickcissel	April 28-August 10
Summer Tanager	April 25-August 10
Red-eyed Vireo	April 20-August 25
Warbling Vireo (Transient)	April 25-May 15
Yellow-throated Vireo	April 10-September 15
White-eyed Vireo	April 15-September 20
Bell's Vireo	May 5-September 5
Black and white Warbler	April 1-July 25
Blue-winged Warbler	April 15-June 25

TABLE II—*Continued.*

Nashville Warbler (Transient)	April 15–May 10
Tennessee Warbler (Tr.)	April 10–May 15
Parula Warbler	April 5–September 1
Yellow Warbler	April 18–July 10
Myrtle Warbler (Tr.)	April 5–April 25
Sycamore Warbler	April 1–July 10
Prairie Warbler	April 10–September 10
Oven-bird	April 20–July 15
Louisiana Water-Thrush	March 28–August 15
Kentucky Warbler	April 20–July 15
Maryland Yellow-throat	April 15–August 10
Yellow-breasted Chat	April 20–August 15
Redstart	April 20–August 20
Mockingbird	February 25–November 15
Catbird	April 25–July 25
Brown Thrasher	March 25–July 1
Carolina Wren	All year
Bewick's Wren	January 15–October 15
Tufted Titmouse	All year
Chickadee	All year
Ruby-crowned Kinglet (Tr.)	March 25–April 20
Wood Thrush	April 20–August 1
Olive-backed Thrush (Tr.)	May 1–May 20
Robin	January 15–October 20

For the Bob-white the records are incomplete. Although it is fairly numerous in Northwest Arkansas, the area covered by the field trips has but a few of them; so the records cannot be regarded as giving the whole song period.

The performance of the Blue Jay is perhaps not a high order of song. Whatever it is, it can be heard all through the year, and most frequently during the fall and winter months, provided the temperature is moderate.

The Meadowlark, as shown in the table, sings all through the year. During the months of August and September, it is heard less frequently than during the spring; but it is, nevertheless, by no means quiet. During December and January, it sings very freely whenever the weather is agreeable.

The Baltimore Oriole apparently does not nest in this region, or at least but rarely. It sings freely while migrating and is sometimes heard for about a month.



Purple Finches winter here in very small numbers, but of these winter residents I have no song records. Soon after migration has begun they may be heard in many places, singly and in chorus.

The song of the Goldfinch is heard at its best during March and April. Although it occurs here in relatively small numbers, its song is commonly heard until about the end of October.

Some of the various Sparrows that spend the winter here (Harris's, White-crowned, White-throated, Song, and Fox) begin to sing in the fall, presumably soon after their arrival, and may be heard on any warm winter day as well as regularly in spring until they leave for their nesting grounds.

The Cardinal begins singing late in December; after about two weeks he is in fairly good song, and from then on only zero weather will prevent him from singing. I have heard his clear notes coming from the top of a tall tree when the thermometer registered 8° F.

Scarlet Tanagers are rare here, a few pairs may be found on some of the higher Ozark hills. The records of the song period are incomplete.

The Loggerhead Shrike's song was heard on only two occasions, although there is evidence that he indulges in it perhaps frequently during the fall season. On one occasion his song was remarkably like that of the Mockingbird.

Warbling Vireos nest in some parts of Arkansas. I have observed them in the southeastern part, Lake Village, but in the northwestern part of the state they have not been found nesting.

The Mockingbird may be heard occasionally all through the winter, but it is not until late in February that it sings with considerable regularity, and continues all through the spring and summer. Even in August and September it may be heard every day.

As a dependable and regular singer, the Carolina Wren holds first place. Only on the very worst winter days does it forget or neglect to sing. And late in August when most of the birds have become silent it is as full of song as in spring.

The Chickadee, as is well known, chatters a good deal, probably all through the year. The periods given in the table refer to the spring song of the Chickadee. Although this is not heard with equal frequency all through the year, it can be heard several times every month of the year.

For the Blue-gray Gnatcatcher the records are incomplete. It nests here in considerable numbers, and the buzzing note may be heard almost anywhere in the woods. Its song is not so often heard.

The Robin winters here in small numbers. Apparently the earliest singing is done by winter residents. The early morning chorus begins later, when the Robins become more numerous, about February 10. During August and September the song is quite frequently and regularly heard.

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DESCRIPTION OF A NEW SUBSPECIES OF THE PRAIRIE  
WARBLER, WITH REMARKS ON TWO OTHER  
UNRECOGNIZED FLORIDA RACES.

BY ARTHUR H. HOWELL.

PENINSULAR Florida has been a popular collecting ground for nearly a century, with the result that several of the large museums in the United States contain large series of Florida birds. With few exceptions, however, these specimens were collected in winter and early spring, and actual breeding specimens of the smaller land birds have been unavailable for study until quite recently.

Beginning in 1918, during a number of trips, I made special efforts to secure breeding specimens of certain species, particularly from southern Florida, and the series gathered during this period has made possible the discrimination of a number of local races, some of which have already been named, though not currently recognized.

The Prairie Warbler is a common breeder on the coasts of Florida, living almost exclusively in the mangrove swamps—a very different habitat from that which it occupies in the Middle States.

The race may be characterized as follows:

***Dendroica discolor paludicola*** subsp. nov.

FLORIDA PRAIRIE WARBLER.

*Type*.—Female adult, No. 261961 U. S. National Museum (Biological Survey collection); collected May 22, 1918, on Anclote Key, by Chas. H. M. Barrett; original number, 52.

*Subspecific characters*.—Similar to *Dendroica d. discolor* but upperparts (especially in females) more grayish (less greenish) and with chestnut markings of the back less pronounced and sometimes lacking; black streaks on underparts averaging smaller; bill, tail, and tarsus longer; wing slightly shorter.

*Description of type*<sup>1</sup> (♀ in breeding plumage).—Upperparts grayish olive, the crown washed with oil yellow and the back faintly flecked with walnut brown; superciliary stripe, sub-orbital patch, and most of underparts lemon yellow, shading to citron yellow on abdomen; sides of breast marked with a few blackish streaks; wings and tail fuscous, the middle wing coverts

<sup>1</sup> Colors from Ridgway, 'Color Standards and Nomenclature,' 1912.

narrowly tipped with grayish white, the three outermost tail feathers with large white terminal patches.

*Variation.*—Some females have the head and back warbler green, the interscapulars faintly marked with chestnut spots.

*Adult male* (breeding plumage).—Upperparts varying from warbler green to yellowish olive, the interscapulars sometimes marked with small spots of chestnut or bay; underparts lemon chrome or Strontian yellow, the sides and flanks more or less marked with black streaks.

*Measurements.*—Average of 17 adult males: Wing, 55.9 (54–59); tail, 49.7 (47.5–52); exposed culmen, 10.5 (10–11.5); tarsus, 19.7 (18–21). Average of 7 adult females: Wing 54.2 (52–57); tail, 48.1 (47–50); exposed culmen, 10.4 (10–11); tarsus, 19 (18–20).

*Range.*—The Florida Prairie Warbler breeds in the mangrove swamps along the coast of the peninsula, north at least to Anclote Keys on the west coast and to New Smyrna on the east coast. Specimens have been examined from the following localities: Anclote Key, 8 (May 21, 22); Pass-a-Grille, 1 (May 13); Sand Key (near Clearwater), 1 (May 20); Seven Oaks (Old Tampa Bay), 1 (March 29); Passage Key, 1 (May 10); Naples, 1 (March 10); Caxambas, 5 (March 29, 31); Cape Sable, 2 (March 27, 30); Biscayne Bay, 9 miles east of Florida City, 1 (June 15); Key West, 1 (March 29); Canaveral, 1 (April 19); Turtle Mound, 1 (May 19); Coronado Beach, 2 (May 23); New Smyrna, 1 (May 21); Fernandina, 1 (April 22).

I have never seen the bird in the interior, but Mr. Oscar E. Baynard tells me that it nests at Micanopy and Zephyr Hills in myrtle bushes around the borders of wooded sloughs.

### *Dendroica pinus florida* (Maynard).<sup>1</sup>

#### FLORIDA PINE WARBLER.

Acquisition of a series of 10 adult male specimens of the Pine Warbler from Royal Palm Hammock and vicinity in January and June, 1918, showed clearly that a well marked race exists in southern Florida, characterized by decidedly longer bill and more yellowish (less greenish) coloration of the head and back. Since then an additional series of 24 breeding specimens has been examined, including the cotypes of *Pinacantor vigorsii florida* Maynard and several specimens from near the type locality of that race (Samsula, Orange City, Zellwood).

Specimens from central Florida, including those from the type region of *florida*, are intermediate in both color and length of bill between typical *pinus* from the Middle States (type locality, Pennsylvania) and the long billed form of southern Florida. On the whole, however, they appear to be nearer to the southern race, to which Maynard's name may therefore be applied.

<sup>1</sup> *P[inacantor] s. [igorsii] florida* Maynard, *Directory Birds East. No. Amer.*, p. 244, 1906; cotypes from Deep Creek (♂) and Enterprise (♀).

The range of this form, so far as determined, is from about latitude 29° (Volusia, Lake, and Citrus Counties) southward to Homestead and Long Pine Key, in the southern Everglades.

Measurements of 11 adult males from southern Florida (Miami, Homestead, Royal Palm Hammock, Long Key) are as follows: Wing, 71.2 mm. (69-74); tail, 52.5 (49.5-56); exposed culmen, 13.2 (12.5-14). Average of 3 adult females from same localities: 66.7 (65-70); 50 (49-51.5); 12.3 (11.5-13).

Thirteen males of typical *pinus* (Pennsylvania to South Carolina) show an average bill measurement of 11.2 (10.5-12), the wing and tail agreeing closely with the Florida race. The type (♂) of *florida* from Deep Creek, has a bill measuring 12 mm., while 7 males from the vicinity of the type locality give the same average.

***Sitta pusilla caniceps* Bangs.<sup>1</sup>**

FLORIDA BROWN-HEADED NUTHATCH.

Comparison of a large series of *Sitta pusilla* from Florida with a similar series from Maryland, Virginia, and the Carolinas shows that the Florida birds have the gray color of the back slightly paler and the head distinctly paler brown; the wing averages decidedly shorter (as pointed out by Ridgway in "Birds of North and Middle America"); the bill is practically the same size (not larger, as stated by Bangs).

Measurements of 18 adult males from Fort Myers and Tarpon Springs are as follows: Wing, 62 (60-63.5); exposed culmen, 13.7 (13-14.5).

*U. S. Biological Survey,*  
*Washington, D. C.*

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<sup>1</sup> Auk, vol. 15, p. 180, April, 1898; type from Clearwater, Fla.

NOTES ON THE BIRDS OF ST. MARTIN AND  
ST. EUSTATIUS.

BY STUART T. DANFORTH.

IN 1927 the writer spent a week (from December 21 to 27, inclusive) on St. Martin, and one day (Dec. 28) on St. Eustatius, observing and collecting as many birds as possible in the limited time available. Practically nothing has previously been published upon the birds of St. Martin, and but little upon those of St. Eustatius, so that practically all of my St. Martin records represent additions to the known avifauna of the island. Both islands are members of the Leeward Group of the Lesser Antilles; St. Eustatius being situated just north of St. Christopher and St. Martin between Anguilla and St. Bartholomew.

St. Martin is only some twelve miles long, and has an area of 42 square miles, yet it is divided between two nations, the northern two-thirds being French and the southern third Dutch. The island is hilly and covered for the most part with a more or less xerophytic brushy type of vegetation. The highest hills reach an elevation of between 1100 and 1200 feet. At various points along the shore there are extensive salt-ponds for the production of salt by the open air evaporation of seawater. The salt-ponds near Great Bay (the Dutch town) are especially large, in fact reputed to be the largest in the West Indies, and are frequented by large numbers of shorebirds.

St. Eustatius is much smaller, being three and a half miles long by one and a half miles wide, with an area of about eight square miles. Most of the island is semiarid, but in the southern part of the island an extinct volcano known as "The Quill" rises to a height of about 1800 feet. The crater of this is clothed with quite a dense forest. The shoreline of the island is abrupt, and there are no shallow bays or salt-ponds to furnish refuge for shorebirds.

An annotated list of the birds observed follows.

***Pelecanus occidentalis occidentalis*** Linné. BROWN PELICAN.—Seen at Great Bay and Simpson's Bay, St. Martin.

***Fregata magnificens*** Mathews. MAN-O-WAR BIRD.—A few seen at Great Bay and Simpson's Bay, St. Martin.



**Ardea herodias adoxa** Oberholser. WEST INDIAN GREAT BLUE HERON.—On December 24 Mr. Rodenheis shot a female in a dry field near his residence about a mile and a half west of the town of Great Bay, St. Martin, and presented me with the bird, which I preserved for my collection. Its stomach was extremely full, and contained 45 giant water beetles (*Hydrophilidae*) and five dragonfly naiads.

**Butorides virescens maculatus** Boddaert. WEST INDIAN GREEN HERON.—Common in the vicinities of Great Bay and Simpson's Bay, St. Martin. The stomach of a male collected at Great Bay contained four small fiddler crabs. The local name of this bird is "Gaulin."

**Nyctanassa violacea jamaicensis** Gmelin. YELLOW-CROWNED NIGHT HERON.—One was observed fishing in the shallow salt-ponds at Great Bay.

**Falco sparverius caribaeorum** Gmelin. LESSER ANTILLEAN SPARROW HAWK.—The species was rather scarce on St. Martin, where two were collected, while on St. Eustatius it was astoundingly abundant. Three were collected there. The stomachs of all five specimens contained nothing but grasshoppers.

**Porzana carolina** Linné. SORA RAIL.—One was shot near Great Bay, St. Martin on December 24 while swimming in a very small pool of fresh water.

**Oxyechus vociferus rubidus** Riley. ANTILLEAN KILLDEER.—Local name "Soldier Bird." About fifteen frequented the vicinity of the salt-ponds at Great Bay, St. Martin. The stomach of a male collected on December 24 contained comminuted insects and coarse sand.

**Squatarola squatarola cynosurae** Thayer and Bangs.—About 100 frequented the salt-ponds at Great Bay, and lesser numbers were seen at other salt-ponds on St. Martin. The stomach of a female collected December 24 contained some large aquatic Dipterous larvae, the fragments of a beetle, and a little coarse sand.

**Arenaria interpres morinella** Linné. RUDDY TURNSTONE.—About 80 could be found around the salt-ponds at Great Bay, St. Martin.

**Actitis macularia** Linné. SPOTTED SANDPIPER.—Local name "Tip-up." This species was common about the salt-ponds of the entire island of St. Martin. Sometimes as many as four were in sight at one time.

**Totanus flavipes** Gmelin. YELLOW-LEGS.—A few were observed in the saltponds at Great Bay.

**Totanus melanoleucus** Gmelin. GREATER YELLOW-LEGS.—One observed at Cul-de-Sac Pond, St. Martin, on December 26.

**Ereunetes pusillus** Linné. SEMIPALMATED SANDPIPER.—About 200 were present on the salt-ponds at Great Bay. The stomach of one collected on December 24 contained many finely comminuted insects and some sand.

**Sterna fuscata fuscata** Linné. SOOTY TERN.—One was seen on December 28 just off the north shore of St. Eustatius.

**Thalasseus maximus maximus** Boddaert. ROYAL TERN.—Several times one was seen skimming over the large salt-pond at Great Bay, St. Martin.

**Columba squamosa** Bonnaterre. SCALED PIGEON.—Seen in the forest high on the volcano at St. Eustatius.

**Zenaida aurita aurita** Temminck. ZENAIDA DOVE.—Local names "Mountain Dove" and "Touterelle." Common everywhere in brushy areas on St. Martin and in the lowlands and on the lower half of the volcano on St. Eustatius. Specimens were collected on both islands.

**Chaemepelia passerina trochila** Bonaparte. PORTO RICAN GROUND DOVE.—Local name "Ground Dove." Common throughout the lowlands of St. Martin and St. Eustatius. Specimens were collected on both islands. The bills of these specimens were entirely dusky brown.

**Orthorhynchos exilis exilis** Gmelin. GILT-CRESTED HUMMINGBIRD.—Local names "Doctor Bird" and "Fou-fou." Common on St. Martin, but extremely abundant on St. Eustatius; I never saw any hummingbird anywhere quite so abundant as this species was there. Specimens were collected on both islands.

**Sericotes holosericeus holosericeus** Linné. GREEN CARIB HUMMINGBIRD.—Local name "Doctor Bird." Common on St. Martin, where several specimens were collected, but only two were seen on St. Eustatius.

**Megaceryle alcyon alcyon** Linné. BELTED KINGFISHER.—Seen frequently on St. Martin.

**Tyrannus dominicensis vorax** Vieillot. LESSER ANTILLEAN GRAY KINGBIRD.—Local name "Chicherri." Common on St. Martin, where three specimens were collected, but not particularly common on St. Eustatius, and found mostly near the town. One stomach contained mostly grasshoppers; another a large wasp, a flea beetle (*Homophaeta equinoctialis*), and some other insect fragments.

**Elaenia martinica martinica** Linné. ANTILLEAN ELAENIA.—One observed in the lowlands of St. Eustatius.

**Elaenia martinica riisii** Selater. RIISE'S ELAENIA.—Common in St. Martin on brushy hillsides, but much more often heard than seen, as it has a habit of uttering its whistled song from a concealed perch. Occasionally the birds lose some of their habitual shyness and perch for a short time in some more exposed place or feed upon fruits growing on trees in open pastures. Two specimens were collected. The stomachs of both contained exclusively large red berries with flat seeds. Mr. J. L. Peters of the Museum of Comparative Zoölogy kindly determined the specimens for me as *riisii*.

**Hirundo rustica erytrogaster** Boddaert. BARN SWALLOW.—One was observed flying over the mangroves at Simpson's Bay, St. Martin on December 23.

**Margarops fuscatus fuscatus** Vieillot. PEARLY-EYED THRASHER.—Local name "Thrush." Locally common on St. Martin in places covered with the denser and higher brushy woods, but the birds keep well concealed while singing, so they are oftener heard than seen. Two were heard on the volcano on St. Eustatius. One was collected on St. Martin.

**Allenia apicalis** Hartlaub. SCALY-BREASTED THRASHER.—Local name

"Thrush." Several observed in some acacia trees at the base of the volcano on St. Eustatius.

**Coereba bartolemica bartolemica** Sparrmann. ST. BARTHOLOMEW HONEY CREEPER.—Local name "Yellow Breast." Common and specimens obtained on both islands. Stomachs examined contained entirely small insects, including Coleoptera, Hemiptera and the larvae of Diptera.

**Mniotilta varia** Linné. BLACK AND WHITE WARBLER.—One observed in a thick manchineel thicket back of the beach at Great Bay, St. Martin on December 24.

**Compsothlypis americana pusilla** Wilson. NORTHERN PARULA WARBLER.—A few were observed and one collected in the French part of St. Martin.

**Dendroica petechia bartholemica** Ridgway. LESSER ANTILLEAN GOLDEN WARBLER.—Apparently scarce on both islands. A female was collected in a mangrove swamp at Simpson's Bay, St. Martin on December 23; one was observed singing in a small clump of trees near the edge of a saltpond at Great Bay on December 24; and one was seen in some scrubby brush near the edge of the sea on St. Eustatius on December 28.

**Dendroica discolor** Vieillot. PRAIRIE WARBLER.—One observed on St. Martin on December 24.

**Seiurus noveboracensis noveboracensis** Gmelin. NORTHERN WATER-THRUSH.—Local name "Chincherry." Frequently seen by small streams and in mangrove swamps on St. Martin. Two were collected for identification. Their stomachs contained comminuted insects, and one bird had eaten in addition a small lizard.

**Seiurus aurocapillus aurocapillus** Linné. OVEN-BIRD.—One shot in a manchineel thicket back of the beach at Great Bay, St. Martin on December 24.

**Setophaga ruticilla** Linné. REDSTART.—Observed on December 22 and 26 in the northern part of St. Martin, and a male was collected in the dense woods high on the volcano of St. Eustatius on December 28.

**Tiaris bicolor ommissa** Jardine. CARIB GRASSQUIT.—Common on St. Martin and at lower altitudes on St. Eustatius. The stomach of a specimen collected on St. Martin contained exclusively small green grass seeds.

**Pyrrhulagra noctis ridgwayi** Cory. RIDGWAY'S BULLFINCH.—This species was apparently quite scarce on St. Martin, as a diligent search revealed but two, and the natives knew no name for the bird. On December 22 I observed a pair in some thick vegetation along a small stream valley north of Marigot, and collected the male. The subspecific identification of the bird was made by Mr. J. L. Peters. The bird's stomach contained nothing but some small unidentified seeds.

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NOTES ON THE BIRD LIFE OF NORTHWESTERN  
WASHINGTON.

BY THOMAS D. BURLEIGH.

(Concluded from Vol. XLVI, p. 519.)

**Passer domesticus.** ENGLISH SPARROW.—Very plentiful, and just as undesirable, and as much of a nuisance, as in the East. June 16 I investigated a small colony of Cliff Swallows nesting under the eaves of a farm house, and found one of their nests taken possession of by a pair of these birds. It held six well incubated eggs, and could be picked out from the others by the grasses at the entrance, a thick lining of grasses and large chicken feathers having been added after the original owners had been driven away.

**Poocetes gramineus affinis.** OREGON VESPER SPARROW.—I saw this species nowhere but in the open prairie country south of Tacoma, but here it was fairly plentiful during the spring and early summer. My first record for the spring migration was that of two birds seen May 9, feeding at the edge of an open field. A nest found May 29 held four incubated eggs, and was sunken flush with the ground in a thick clump of grass at the edge of a bunker on an open golf course. It was well built of weed stems and grasses, lined with finer grasses and horse hair.

**Passerculus sandwichensis alaudinus.** WESTERN SAVANNAH SPARROW.—My one record for the occurrence of this species here was a single bird seen at Westport March 28, feeding at the edge of a small pond in an open field. None winter, so this bird was apparently an early migrant.

**Passerculus sandwichensis brooksi.** DWARF SAVANNAH SPARROW.—This recently described subspecies breeds on the open tide flats about Tacoma, and is fairly plentiful there. I crossed these tide flats April 11, and heard the birds singing all about me.

**Zonotrichia leucophrys nuttalli.** NUTTALL'S SPARROW.—A plentiful summer resident, with a very evident preference for thickets and underbrush bordering open fields. It was last seen in the fall on Oct. 3, a flock of ten birds being noted that day feeding at the side of a road. The first bird reappeared in the spring March 24, but it was not until April 12 that they were finally fairly plentiful, and singing. I succeeded in finding three nests about Seattle, one May 12 with four half incubated eggs, another May 17 with four well incubated eggs, and the third June 19 with three fresh eggs. They were all within three feet of the ground in thick bushes in fields overgrown with scrubby underbrush, and were rather bulkily built of weed stems, grasses, dead fern leaves and a few rootlets, deeply cupped and lined with fine grasses and a little horse hair. A fourth nest found at Tacoma May 15 with four slightly incubated eggs differed quite radically from the others for it was sunken flush with the ground in a little

thicket at the edge of a short stretch of woods, and was loosely built of weed stems, grasses and a few shreds of bark, lined with fine grasses and a little cow hair.

**Zonotrichia coronata.** GOLDEN-CROWNED SPARROW.—This species was a rather plentiful spring migrant, and may occur in the fall, although I overlooked it entirely then. As it was the latter part of September before I reached Seattle it is very probable that these birds had come and gone by that date. The first migrants, two males, were seen April 28, and by the 8th of May numerous small flocks could be found feeding in thickets and underbrush at the edge of short stretches of woods. My last record for the spring migration was that of a single bird seen May 22, feeding in a thicket at the side of a path through a stretch of woods. A few birds linger through the winter, and I have two records for their occurrence at this time of the year, one being seen Jan. 28, and another Feb. 29, feeding in thickets at the side of a road.

**Spizella passerina arizonae.** WESTERN CHIPPING SPARROW.—A fairly plentiful summer resident, scattered pairs being found in the open fir woods. Two birds were seen for the first time in the spring on May 2, and within a few days singing males were more or less in evidence. Three nests that were found, one May 15, another May 16 and the third May 23, were all at the outer end of drooping limbs of large Douglas firs at the edge of stretches of woods, varying in height from five to ten feet from the ground, and each held four fresh eggs. They were alike in construction, being well built of weed stems, rootlets and grasses, lined with horse hair, and differing from those of the eastern Chipping Sparrow only by their perceptibly larger size.

**Junco hyemalis connectens.** SHUFELDT'S JUNCO.—This species was very plentiful about Seattle during the fall and winter, numerous flocks being seen, but they gradually disappeared early in the spring and none remained to breed. About Tacoma, however, they were one of the characteristic breeding birds of the scattered stretches of open fir woods, none being without several pair at least, and usually more. Here birds were frequently flushed from nests that almost invariably were sunken in the green moss that covered the ground, and protected and concealed by a dead fir limb or, rarely a clump of dead ferns. They were substantially built of weed stems and fine grasses, in one case with green moss intermixed, and lined, sparingly at times, with horse hair. Evidently four eggs are usually laid for none were found with more, and only two with but three. One nest was placed in a very odd situation for it was snugly built in an old rusty tin can lying at the edge of an open field, and twenty feet from the nearest underbrush. My earliest breeding record was a nest found May 9 with four fresh eggs, my latest a nest found June 6 that also held four fresh eggs.

**Melospiza melodia morphna.** RUSTY SONG SPARROW.—Resident, and plentiful throughout the year in thickets and underbrush about water. This preference for moist situations was very noticeable for while a few



birds were seen practically anywhere it was only at the edges of streams, or the scattered swamps, or pools, that they were at all numerous. Here, too, in the reeds and marsh grass that fringed the water the nests were frequently found, never over a foot from the ground, and though substantially built, rather well concealed. One nest was over two feet of water, in a clump of dead reeds near the center of a swamp, but this was probably rather exceptional. Other situations in which nests were found were a foot from the ground in clumps of dead ferns at the edge of fields overgrown with scrubby underbrush, five feet from the ground in a dense growth of vines covering an old stump at the edge of an open field, sunken flush with the ground at the foot of an alder sapling and unusually well concealed by the green moss that draped the foot of the tree and completely covered it, and a few inches from the ground among the stalks of a small thick bush at the edge of a short stretch of open woods. They were well built, and at times almost bulky, of coarse pieces of reeds, weed stems, dead leaves, strips of bark and grasses, lined with fine grasses and very often horse hair. Full sets consisted of either three or four eggs, both being equally common, while none were found with more than four. A nest found April 10 with two fresh eggs, an incomplete set, was my earliest breeding record, my latest a nest found June 18 with three slightly incubated eggs. At any time between these two dates it was possible, I soon realized, to flush a bird from a nest holding fresh eggs.

***Melospiza lincolni lincolni*.** LINCOLN'S SPARROW.—I have but two records for the occurrence of this species here, both for the spring migration, single birds being seen April 4 and May 5, feeding in underbrush bordering open fields. Either, or both, may have been Forbush's Sparrow, *Melospiza lincolni striata*, but as neither was collected this could not be determined.

***Passerella iliaca*, and subspecies.** FOX SPARROW.—A chance question concerning the status of the Fox Sparrow here revealed the fact that it was considered an uncommon migrant, and that little was known as to the relative abundance or scarcity of the various subspecies that might reasonably be expected to occur about Seattle, so I devoted considerable of my time to collecting a small series of these birds. I soon found that they were far commoner than was generally realized, and I feel now that they were merely overlooked. Feeding as they do in rather thick brush, often deep in the woods, or in dense thickets bordering open fields, they were never conspicuous, and if approached they at once became timid and difficult to see, so it is small wonder they were thought scarce. From the 4th of January through the 30th of April I spent part of many mornings or afternoons hunting these birds, crawling through dense salal when one was heard scratching vigorously in the dead leaves ahead of me, or watching the thickets ahead of me as I followed a path through the woods, and in that time succeeded in securing a sufficient number to give me a fair idea of the occurrence of the different subspecies. Many of the skins were sent to the Biological Survey for correct identification, and with these as a basis to work with little difficulty was experienced in determining the



form each bird should be referred to. The Valdez Fox Sparrow, *Passerella iliaca sinuosa*, proved the commonest, fully half of those taken being of this subspecies. They were seen almost daily, rarely over two at one spot, and they remained later than the others, two taken April 30 being the last noted here. The Sooty Fox Sparrow, *Passerella iliaca fuliginosa*, was next in abundance, a fourth of those collected being of this form. Single birds, or at times two, were seen at irregular intervals, but they were never actually scarce until April 26 when one was collected for the last time. The Shumagin Fox Sparrow, *Passerella iliaca unalaschensis*, was possibly but half as plentiful as *fuliginosa*, judging from the number of specimens taken. The first bird was noted Feb. 15, and it was the middle of April before many were seen, although after that date, until April 28, one was collected almost daily. The largest of the group, the Kadiak Fox Sparrow, *Passerella iliaca insularis*, was very scarce, and was represented by but one specimen taken April 19. One Eastern Fox Sparrow, *Passerella iliaca iliaca*, was also taken Feb. 15 as it fed with several Rusty Song Sparrows in a thicket at the edge of an open field, and to the best of my knowledge constitutes the first record for the state.

**Pipilo maculatus oregonus.** OREGON TOWHEE.—Resident, and plentiful throughout the year in thickets and underbrush both in the open and in the scattered short stretches of woods. My first nest, with three slightly incubated eggs, was found May 12, while my latest was found June 25 and held four eggs possibly half incubated. Seemingly the birds breed irregularly for at frequent intervals between these two dates one was flushed from a nest holding eggs. These were invariably sunken flush with the ground, at times at the base of an old stub or of a small sapling, and were quite well concealed by the Oregon grape and clusters of ferns that cover the ground here. They were well built of dead leaves, weed stems and grasses, rarely a little green moss or shreds of bark, and were lined with fine grasses. Three eggs are usually laid for of nine nests which I have recorded in my note book but two held four.

**Zamelodia melanocephala.** BLACK-HEADED GROSBEAK.—This species was a fairly plentiful summer resident, but in my experience by no means common. One was seen for the first time in the spring on May 14, and within a week scattered birds could be found in favored spots in the short stretches of woods.

**Passerina amoena.** LAZULI BUNTING.—I found this species a rather scarce summer resident in underbrush bordering open fields. It was first seen in the spring on May 19, and but rarely thereafter.

**Piranga ludoviciana.** WESTERN TANAGER.—I found this species also a rather scarce summer resident in the scattered stretches of open fir woods. None were seen until May 21, two males being noted that day feeding with a flock of Townsend's Warblers in the upper branches of several large firs in a wooded ravine.

**Progne subis hesperia.** WESTERN MARTIN.—This species was a plentiful summer resident about both Seattle and Tacoma, but did not breed

in the open country surrounding these cities. Two birds were seen for the first time in the spring on April 24, feeding over the water in an inlet on Lake Washington, and by the latter part of May many were found nesting in crevices and crannies of the larger buildings in the business sections where at present they are entirely confined during the breeding season.

**Petrochelidon lunifrons lunifrons.** CLIFF SWALLOW.—A plentiful summer resident, small colonies being noted about a number of buildings where remnants of old nests showed they had nested previous years. They were first seen in the spring on April 24, possibly thirty birds being found that day showing great interest in a few last year's nests under the eaves of a building on the campus of the University of Washington. On June 16 I came across a small colony of some twenty pairs that had plastered their nests under the eaves of a farm house, and in one nest that could be easily reached found six well incubated eggs.

**Hirundo erythrogaster.** BARN SWALLOW.—A fairly plentiful summer resident, but seemingly there was less tendency to colonize than is the case in the east for without exception each pair would be found nesting alone. Considering the mild climate they arrived much later in the spring than I would have expected for it was not until the 8th of May that two birds were seen for the first time feeding overhead. My first nest was found June 13, and held three slightly incubated eggs. It was on a projection above a pillar in one corner of a porch of a house in Tacoma, and was characteristic of this species, being built of pellets of mud intermixed with grasses, lined with fine grasses and then chicken feathers. Three other nests that were found, one on the 16th of June and two on the 20th, were all on beams in sheds, in two, four fresh eggs and in the third, five, slightly incubated.

**Iridoprocne bicolor.** TREE SWALLOW.—This species was likewise a fairly plentiful summer resident, and one of the first migrants to appear in the spring. Feb. 29 seven birds were seen, scattered along a telephone wire at the side of a road, and by the middle of March small flocks were frequently noted feeding over open fields. A nest with three fresh eggs found May 19 at Renton was ten feet from the ground in a cavity in an old rotten willow stub in underbrush bordering a stream, and was built entirely of large chicken feathers. Another found June 18 held four slightly incubated eggs, and was fifteen feet from the ground in an old Flicker's hole in the dead top of a willow at the edge of an open field. It was more substantially built of grasses, with a thick lining of large white chicken feathers.

**Tachycineta thalassina lepida.** NORTHERN VIOLET-GREEN SWALLOW.—This species was a plentiful summer resident, and one that apparently, in this part of the state at least, has readily accepted the benefits to be derived from the proximity of man, for during the breeding season they were rarely seen far from houses. Three birds were noted for the first time in the spring on March 14, feeding over an open field with a small flock of Tree Swallows, and within ten days they were quite common. While at Tacoma, April 3, I was interested in their abundance about the

large swamp south of the city, literally hundreds being seen there that day feeding low over the reeds and stretches of open water. A nest found June 9 held four slightly incubated eggs, and was on a beam in a corner inside the attic of an old unused house. It was a large mass of weed stems, grasses and feathers, the middle being neatly cupped and well lined with large chicken feathers. Another nest found June 13 held six half incubated eggs, and was in a cavity between two logs in the side of an old log cabin. It was the usual mass of grasses and large chicken feathers, so much out of proportion to the size of the bird, the top being as before neatly cupped and lined with the chicken feathers.

**Stelgidopteryx serripennis.** ROUGH-WINGED SWALLOW.—This species was, in my experience, less plentiful than the other Swallows but this was probably due to the scarcity of suitable nesting sites. Possibly if I had spent more time on the Sound I might have found many of them taking advantage of the high bluffs there, but I lacked the opportunity of so doing. Two birds were seen for the first time in the spring on April 10, feeding over a stretch of open water near the edge of a swamp, and a nest was found near this spot on June 6 that held five fresh eggs. It was at the end of a foot and a half hole in a bank at the side of a road, and was flat but substantially built of twigs, rootlets and weed stems, lined with grasses.

**Bombycilla garrula.** BOHEMIAN WAXWING.—One of the pleasantest experiences of the winter was the opportunity I had of witnessing a large invasion of these birds, and of becoming familiar for the first time with their habits and temperament during this part of the year. The first flock of fully a hundred appeared on Dec. 6, and almost at once they became plentiful, large flocks being noted almost daily. Their lack of timidity was a never failing source of interest to me, and one experience I had seems almost unbelievable now. It shows so well their surprising tameness that I shall quote directly from my notebook, and give the details as they were written then:—"Dec. 16—The birds on the University campus have gradually increased until now there are fully eight hundred of them there; they feed on the ground or in the thickets where the bushes are full of berries, and are remarkably tame, allowing anyone to walk up within a foot of them; two lit on me as I stood watching them, one on my shoulder and one on the top of my head, the latter bird remaining there for several minutes; a few minutes later, I held out my hand full of berries and one bird actually lit on my arm and standing on the sleeve of my mackinaw ate the berries without paying the slightest attention to me; a sudden noise startles them, and the passing of an automobile or the closing of a window invariably causes them to fly into the top of the nearest tree from which they soon drop into the bushes again." Warm weather during the latter part of January brought out many insects, and these birds were then frequently noticed "flycatching," circling and soaring through the air for minutes at a time, and reminding me very much of Swallows. The last flock was seen Feb. 20, twelve birds being found in the top of a tree at the edge of a field.

**Bombycilla cedrorum.** CEDAR WAXWING.—This species was fairly

plentiful during the fall, but seemingly does not winter, for the small flocks that were seen had disappeared by the latter part of October, and it was not until May 1 that two birds were recorded again for the first time in the spring. My first nest was found June 17, and held four fresh eggs. It was five feet from the ground in a small bushy willow at the edge of a thicket in an open field, and was shabbily built of coarse weed stems, rootlets and grasses, lined with fine weed stems. Another nest found June 20 at Tacoma held five slightly incubated eggs, and was six feet from the ground at the outer end of a lower limb of a large Douglas fir at the edge of a grove of firs surrounding a farm house. It was well built of fir twigs, brown usnea moss and a few grasses, lined with the moss and a few fine grasses.

**Lanius borealis.** NORTHERN SHRIKE.—I have but three records for the occurrence of this species here so it is evidently an uncommon winter resident. Single birds were seen Oct. 11, Nov. 21 and Feb. 23, each time in the top of a tree or bush at the edge of an open field.

**Vireosylva olivacea.** RED-EYED VIREO.—This species is a very scarce summer resident here, and I saw but one pair, on June 16, in a short stretch of woods near Seattle. The male was following the female about, singing, as she fed from tree to tree, but as far as I could determine they were not nesting yet, even at this late date.

**Vireosylva gilva swainsoni.** WESTERN WARBLING VIREO.—A plentiful summer resident, but limited to a large extent to the stretches of woods bordering both Lake Washington and scattered small streams where hardwoods, alders and maples predominated. One bird was seen for the first time in the spring on May 12, and within a few days they were quite common. Between the 11th and the 24th of June five nests were found, each time by tracing the bird as it sang while incubating, a trait apparently rather common with this species. All held four eggs, and were in either alders or maples, varying in height from eight to thirty-five feet from the ground. They were compactly built of grasses, green moss and plant down, lined with fine grasses, and ornamented slightly on the outside with spiders' web.

**Lanivireo solitarius cassini.** CASSIN'S VIREO.—This species was quite plentiful during the summer months in the short stretches of woods about Tacoma, but strangely scarce at Seattle where it was rarely seen. The first bird appeared in the spring on April 12, and on May 23 a nest was found, at Tacoma, that held five half incubated eggs. It was twelve feet from the ground at the outer end of a limb of a small scrub oak in a stretch of open fir woods, and was built of grasses and usnea moss, lined with fine grasses and bright red moss rootlets, and well ornamented on the outside with white spiders' egg cases and bits of dead leaves. I would have expected these birds to nest in the firs, but as far as my experience went they have no liking for conifers and invariably select a deciduous hardwood in which to build. Within the next month four other nests were found, and two of them were in small oaks and two in alder saplings,

varying in height from five to ten feet from the ground. One, on May 31, held four well incubated eggs, another, on June 9, held four fresh eggs, while two were found June 20, in one four fresh eggs and in the other three, well incubated. They varied little in construction from the first nest, although three were well ornamented with fragments of a hornet's nest and in one green moss was used.

**Vireo huttoni obscurus.** ANTHONY'S VIREO.—This little Vireo may be fairly plentiful here but it is so quiet and inconspicuous that it is easily overlooked and may therefore be thought scarcer than it really is. It is certainly unlike any of the other vireos with which I am familiar for I rarely heard it utter a sound, and during the spring it oddly enough became even more retiring and nothing even slightly resembling a song was heard. At intervals throughout the winter single birds were seen feeding in underbrush in the short stretches of woods, frequently with restless flocks of Kinglets, but I soon realized that unless actually looked for they possibly would not have been noticed. A nest was found May 2 in a stretch of large second growth Douglas fir near Kirkland that held three slightly incubated eggs. It was thirty-five feet from the ground at the outer end of a limb of a fir, and was built entirely and compactly of light green usnea moss, lined well with fine grasses. The female was not incubating when I climbed the tree but soon appeared followed by the male and at once showed great uneasiness, although she never uttered a sound as she moved nervously about in the nearby trees. Another nest found May 9 near Tacoma held three well incubated eggs, and was twenty-five feet from the ground at the outer end of a limb of a Douglas fir near the edge of a stretch of open woods. It likewise was built entirely and compactly of light green usnea moss, lined with fine grasses, but was rather ragged externally, suggesting that perhaps the moss was continually added during incubation, more or less for ornament, as the Cassin's Vireo uses the spiders' web. The female was incubating, and was quite fearless, refusing to leave the nest until actually pushed from her eggs.

**Vermivora celata celata.** ORANGE-CROWNED WARBLER.—My experience with this species has appeared in 'The Condor' for Nov.-Dec., 1920, Vol. XXII, No. 6, so I shall touch on it but briefly at this time. Always considered a rather scarce spring and fall migrant I found these birds not uncommon during the winter, feeding with restless flocks of Kinglets and Chickadees where, being quiet and inconspicuous, they were easily overlooked. One was seen Dec. 26, another Jan. 31, a third Feb. 9, two Feb. 13, and a sixth Feb. 27. Four of them were collected that there might be no question as to their identification.

**Vermivora celata lutescens.** LUTESCENT WARBLER.—A plentiful summer resident in underbrush at the edges of the scattered short stretches of woods. They were early migrants for two, both singing, were seen at Westport March 29, and by the 12th of April they were plentiful about Seattle. On May 13 a bird was flushed from a nest that held four slightly incubated eggs that was sunken flush with the ground at the base of a



thick clump of grass within two feet of a path through a short stretch of open woods. It was built of dead leaves and fine shreds of bark, and well lined with fine grasses.

***Dendroica aestiva brewsteri*.** CALIFORNIA YELLOW WARBLER.—A plentiful summer resident in the stretches of willows and alders bordering Lake Washington, and noted in small numbers about fields overgrown with scrubby underbrush. Two birds were seen for the first time in the spring on May 1, feeding, singing, in alders fringing the Lake, and almost at once they were fairly plentiful. The first nest was found May 24, and held four fresh eggs. It was four feet from the ground in a small willow in underbrush bordering a stream, and was compactly built of gray plant fibres, fine shreds of bark and a few grasses, deeply cupped and lined with plant down, a few feathers and several horse hairs. Between that date and the 20th of June eight other nests were found, four eggs in each. Five were in willows and three in alders, varying in height from five to twenty feet from the ground, the average being six feet. They varied little in construction from the first nest, the shreds of bark being absent in a few and, more rarely, the gray plant fibres.

***Dendroica coronata hooveri*.** ALASKA MYRTLE WARBLER.—This species was one of the earlier migrants for a flock in which there were possibly ten birds was seen March 14, feeding at the edge of a short stretch of woods, and while at Westport March 28 five birds were seen in the open woods near the beach.

***Dendroica auduboni auduboni*.** AUDUBON'S WARBLER.—This species is more or less resident here for while it was a little scarce during the winter months single birds were seen at frequent intervals after the small flocks had disappeared in the fall. They breed early for a nest was found May 3 with four young several days old. It was fifteen feet from the ground at the outer end of a limb of a Douglas fir at the edge of an open field, a situation quite typical of this species. While at the nest the male appeared with food and at once fluttered along a limb within a few feet of me, feigning a broken wing. Another nest found the same day held four fresh eggs, and was twenty feet from the ground at the outer end of a limb of a Douglas fir at the edge of an old slashing. It was compactly built of rootlets, shreds of bark and, externally, numerous downy spiders' egg cases, deeply cupped and lined with feathers and a few horse hairs. It is possible that two broods are reared for a third nest was found June 13 at Tacoma that held three fresh eggs. It was fifteen feet from the ground at the outer end of a limb of a large Douglas fir in a short stretch of open woods, and was compactly built of fir twigs, shreds of bark and grasses, well lined with black horse hair and a few Steller's Jay feathers.

***Dendroica nigrescens*.** BLACK-THROATED GRAY WARBLER.—A fairly plentiful summer resident, but rather local in distribution. One bird, a male, was seen for the first time in the spring on April 26, feeding, singing, in the lower branches of a large Douglas fir, and within a few days they were reasonably common. A nest was found May 26 in a stretch of woods



near Kirkland that held four slightly incubated eggs. It was twenty feet from the ground and ten feet out at the outer end of a limb of a large Douglas fir, and was built of green moss, shreds of bark and rootlets, well cupped and lined with fine grasses and the feathers of a Varied Thrush.

***Dendroica townsendi*.** TOWNSEND'S WARBLER.—I found this species fairly plentiful during the fall, rather scarce throughout the winter, and quite plentiful for a few weeks in the spring. From the latter part of September through the middle of November one was seen at frequent intervals feeding either in underbrush or as often in the upper branches of the larger trees, but from the first of December until the middle of April but few were noted. May 1 they were especially numerous, small flocks being seen in many of the short stretches of woods. None remained to breed, however, for they had all disappeared within a week.

***Dendroica occidentalis*.** HERMIT WARBLER.—This species was not seen at all at Seattle, but was fairly plentiful in the stretches of fir woods in the open prairie country about Tacoma. Here a nest was found June 10 that held five slightly incubated eggs, and that was fifteen feet from the ground and twenty feet out at the outer end of a limb of a large Douglas fir at the edge of a short stretch of open woods and facing an open field. It was compact and deeply cupped, and built of fir twigs, rootlets and green usnea moss, lined with fine grasses and then gray horse hair.

***Oporornis tolmiei*.** MACGILLIVRAY'S WARBLER.—This species was a fairly plentiful summer resident in underbrush in the scattered short stretches of woods. One bird was seen for the first time in the spring on April 26, but it was not until June 23 that I succeeded in finding a nest that held three fresh eggs. It was two feet from the ground in a thick bush in the middle of a short stretch of open woods, and was large and bulkily built of coarse weed stems, grasses and numerous short strips of white paper, well cupped and lined with black rootlets.

***Geothlypis trichas arizela*.** PACIFIC YELLOW-THROAT.—This species was a plentiful summer resident in stretches of reeds and cat-tails fringing any open water. The first birds were noted in the spring on April 10, about the large swamp south of Tacoma, and on the 12th many were seen in the reeds bordering Lake Washington. A nest was found May 9 at Tacoma that held three fresh eggs, and that was a few inches from the ground in a thick clump of reeds and marsh grass at the edge of the swamp. It was rather loosely built of coarse pieces of reeds, lined with fine grasses and then considerable horse hair.

***Wilsonia pusilla chryseola*.** GOLDEN PILEOLATED WARBLER.—This species was fairly plentiful at Seattle, but decidedly scarce about Tacoma where I understand it is rarely seen. The first bird appeared in the spring on May 1, and four days later many could be found feeding, singing, in thickets and underbrush at the edges of the short stretches of woods.

***Anthus rubescens*.** PIPIT.—This species was a common migrant, and small flocks are said to winter on the tide flats near Tacoma although I saw none about Seattle after the latter part of November. The first flock

appeared in the fall on Oct. 4, possibly fifty birds being seen feeding in an open field. While at Westport March 28, a small flock of thirty birds was seen, well scattered over a tide flat covered with low marsh grass.

**Thryomanes bewicki calophonus.** SEATTLE WREN.—Resident, and plentiful throughout the year in thickets and underbrush both in the open and in the short stretches of woods. They breed early, but also rather irregularly, for while my first nest, with five slightly incubated eggs, was found April 29, four young birds, out of the nest several days at least, were seen the following day, and other nests with eggs were noted at intervals during the following two weeks. My latest breeding record was that of a nest found May 16 with five half incubated eggs, so I am uncertain as to whether or not more than one brood is reared. The usual situation chosen for the nest was in a natural cavity in an old rotten stump within a foot of the ground, either in underbrush or in an open slashing, my one exception being a nest built in the upturned roots of a large fir at the side of a small stream in a ravine. They varied little in construction, being fairly substantial but somewhat loosely built of twigs, weed stems, shreds of bark, dead leaves, bits of green moss and grasses, well cupped and lined with feathers, rarely a little rabbit fur, and invariably a few fragments of an old snake skin.

**Troglodytes aedon parkmani.** WESTERN HOUSE WREN.—This species was a plentiful summer resident about Tacoma, but very scarce for some reason at Seattle where it was rarely seen. The first bird appeared in the spring on April 12, and on May 31 a nest was found, at Tacoma, that held seven fresh eggs. It was five feet from the ground in a natural cavity in a fir stub in the middle of an open slashing, and was loosely built of twigs, shreds of bark and grasses, thickly lined with feathers of a Sooty Grouse and fragments of an old snake skin.

**Nannus hiemalis pacificus.** WESTERN WINTER WREN.—Resident, and plentiful throughout the year, although seen largely during the summer months in cool moist ravines. From my rather limited experience with the Winter Wren in the east I had acquired the idea that in selecting a suitable nesting site these birds almost invariably chose the upturned roots of a fallen tree, so I was quite interested in the different situations in which the nests were built here. My first nest, with six fresh eggs, was found April 26, and was two feet from the ground in the upturned roots of a large fir at the side of a stream in a wooded ravine. It was a ball of green moss, intermixed with grasses and, about the opening at the side, fine fir twigs, well lined inside with feathers. A second nest that on May 4 held six half incubated eggs, was two feet from the ground in a crevice at the end of an old rotten log on a hillside in a ravine, and was built entirely of green moss, with a very few fir twigs at the entrance, well lined inside with the feathers of a Varied Thrush. A third nest found at Tacoma May 9 held five slightly incubated eggs, and was three and a half feet from the ground in a hole in an old rotten stump in a stretch of thick woods. The cavity was but three or four inches deep so except for the lining of feathers

only green moss had been used, the usual fine twigs being missing. A fourth nest was to my mind even more unusual for it was five feet from the ground well concealed in a mass of dead leaves lodged in a clump of shoots growing from the trunk of a large alder in a short stretch of open woods. It was found May 11, and held on that date half grown young.

**Telmatodytes palustris paludicola.** TULÉ WREN.—Resident, and plentiful throughout the year in the stretches of reeds and cat-tails so numerous here. They breed early for fresh eggs can be found the latter part of March but as might be expected where birds nest together in large numbers as these do there is quite an irregularity in the date that individual pairs undertake domestic duties. On April 10 I searched but a small part of the large swamp south of Tacoma, and in an hour or so succeeded in finding forty-nine nests. Many of these were undoubtedly decoys for it is a well known custom of these Marsh Wrens to build three or four nests and use but one, and I was not surprised that but seven out of all that were found held either eggs or young. In one there were two fresh eggs, in another three, in a third four, in two five, but slightly incubated, in one six, well incubated, and in the last small young. All were fairly well concealed in thick clumps of reeds, within two or three feet of the water, and were globular and with the entrance at one side and well toward the top. They were compactly built of matted fragments of reeds and cat-tails and cat-tail down, lined inside with the down and feathers. I spent a short time with another smaller colony of these birds in a stretch of reeds and cat-tails bordering Lake Washington, and, on April 24, found nine nests there, in two of which were five well incubated eggs.

**Certhia familiaris occidentalis.** CALIFORNIA CREEPER.—This species was resident here, one or two being seen during the winter months in many of the short stretches of woods about Seattle. Their numbers dwindled perceptibly early in the spring, however, and relatively few remained to breed. I succeeded in finding one nest June 2 in a stretch of thick woods near Kirkland that held five slightly incubated eggs. It was six feet from the ground behind a loose piece of bark on the trunk of a large western red cedar, and was bulkily built of pieces of rotten wood and shreds of bark, the cavity in the top being lined with soft shreds of cedar bark and a few feathers. They breed abundantly at Tacoma, every stretch of woods in the open prairie country having at least one pair, but this is due largely I understand to the success J. Hooper Bowles has had in luring them to the nesting sites he has provided for them. Some few years ago the idea occurred to him that they might readily accept loose pieces of bark placed securely on suitable trees, and almost at once his optimism was rewarded by their using many of his unique "bird houses." I personally saw seven nests built behind pieces of bark provided by him, and placed within five feet of the ground on the trunks of large Douglas firs. The first held on May 15 six fresh eggs, while the latest held five half incubated eggs on June 13. Five eggs is seemingly the number usually laid for only two out of the seven held six. They varied little in construction, the available

cavity being more or less compactly filled with fir twigs, bits of rotten wood, fine shreds of bark, grasses and green moss, lined at the top with such soft material as plant down, bits of rabbit fur and feathers. Only one nest was found at Tacoma in a natural situation, and it was ten feet from the ground behind a loose piece of bark on the trunk of a small dead oak at the side of a road through a short stretch of woods. It held, on May 30, six slightly incubated eggs, and was bulkily built of twigs and pieces of rotten wood, well lined at the top with fine shreds of bark and feathers.

***Sitta canadensis.*** RED-BREASTED NUTHATCH.—Resident, and fairly plentiful in the scattered stretches of fir woods. My first nest, with five slightly incubated eggs, was found May 9, and was eighteen feet from the ground in a cavity in the trunk of an old dead fire-charred fir at the edge of an open field. Another that, on May 16, held seven slightly incubated eggs was fifteen feet from the ground in a cavity near the top of a small slender fir stub in the middle of a short stretch of woods. Both were rather meagerly built of grasses, shreds of bark and a few feathers, while the entrance, as is characteristic with this species, was heavily smeared both above and below with pitch. Each time the female was incubating, and flushed at once when the tree was rapped. A third nest that was found May 23 held six slightly incubated eggs, and was but five feet from the ground in a cavity in an old rotten fir stub at the edge of a short stretch of woods. It was quite substantially built of green moss and fine shreds of bark, and the entrance, especially below, was very heavily smeared with big drops of pitch.

***Penthestes atricapillus occidentalis.*** OREGON CHICKADEE.—This species was very plentiful here, but to some extent was local in its distribution, especially during the summer months, for it was then limited largely to the stretches of deciduous woods fringing Lake Washington where alders and willows predominated. Small flocks were noted during the winter about Tacoma, feeding then, as at Seattle, in the open fir woods, but they became decidedly scarcer as spring approached. My first nest, with six slightly incubated eggs, was found May 7, and between that date and the 30th of May I succeeded in finding nine others, in one but four half incubated eggs, in another five, slightly incubated, in three six, and in four seven, the latter varying from fresh to well incubated. The cavity is excavated by the birds themselves in small rotten willow or alder stubs in underbrush near water, usually five or six feet from the ground, and a soft often deeply cupped nest built then of green moss, bits of rabbit fur, cow hair, plant down and soft shreds of bark, well matted together. The behavior of the incubating bird surprised me a little for frequently, instead of flushing when the stub was rapped or merely refusing to leave, one would display real indignation at my intrusion, hissing vigorously and thumping the sides of the cavity with her wings. This was unquestionably a means of protection against such enemies as snakes or ground squirrels for I hesitated myself the first time in my uncertainty as to what I had found.

**Penthestes rufescens rufescens.** CHESTNUT-BACKED CHICKADEE.—Unlike the last this was a bird of the fir woods, especially the larger thicker stretches, for even during the winter months the small flocks that were seen showed no tendency to wander elsewhere. About Tacoma they replaced the Oregon Chickadee to a large extent, and it was here that practically all my nests were found. The usual situation was in a fir stub, varying in height from a foot and a half to nine feet from the ground, although one nest was twelve feet from the ground in a knot hole in the trunk of a large dead oak at the edge of a stretch of open prairie, while another was five feet from the ground in a cavity in the thick bark of a large Douglas fir in a short stretch of open woods. They were larger and more substantially built than those of the Oregon Chickadee, and the choice of material varied considerably, one pair having a deeply cupped bed of green moss, horse hair, considerable cotton and feathers of a Steller's Jay, another using green moss, rope fibre, bits of rabbit fur and considerable white cat fur, and a third being apparently satisfied with fine grasses, cow hair and rabbit fur. Large broods are evidently not uncommon for while the average nest held six or seven eggs two were found, one on May 30 and the other on June 6, that each held nine. My earliest breeding record was that of a nest found May 16 with seven slightly incubated eggs, my latest a nest that on June 10 held six eggs possibly half incubated. These birds had the same habit of hissing and fluttering about when a stub was rapped, although they were just as apt to flush at once when disturbed.

**Psaltriparus minimus minimus.** BUSH-TIT.—This species was resident, and plentiful throughout the year, but far more in evidence during the winter months when quite large flocks were seen. It was not uncommon to find thirty or thirty-five of these birds feeding together, and as they seldom wandered far apart the underbrush would appear literally alive with them. Their desire for companionship was to my mind one of their most characteristic traits for more than once four or five in a flock would be seen huddling together for several minutes before scattering to feed again. On March 19 a pair were noted working on a partly completed nest, and on April 22 it finally held a full set of six fresh eggs. It had unquestionably taken the birds at least five weeks to complete this nest, but considering its size and the material that was used I doubt if this length of time is exceptional. Like all the others that were later found it was gourd shaped, and a foot in length, solid for fully half its length, and with the entrance to the cavity that held the eggs at one side and at the top. It was built of green moss, bits of dead leaves, plant down, cobwebs and lichens, and well lined inside with feathers. Being seven feet from the ground in an alder sapling in rather open underbrush it was quite conspicuous, and visible for some distance, and at the time I wondered how the birds could possibly succeed in rearing their brood. Perhaps its resemblance to a thick strand of moss hanging from the tree, and too, its utter dissimilarity to what is generally considered a bird's nest, may be the factors that insure



its safety. This situation proved the one usually chosen for other nests found throughout May were in bushes or saplings in thickets or underbrush at the edges of fields or short stretches of woods, varying in height from five to fifteen feet from the ground, and while at times partially concealed by the surrounding foliage were by no means inconspicuous. One exception was a nest found May 25 with seven fresh eggs that was eight feet from the ground at the outer end of a limb of a Douglas fir at the side of a road. Six or seven eggs are usually laid, although two nests were found, one on May 7 and the other on May 16, that each held eight.

***Regulus satrapa olivaceus.*** WESTERN GOLDEN-CROWNED KINGLET.—Resident, and fairly plentiful throughout the year in the short stretches of fir woods. One nest was found May 22 near Kirkland that held small young, and that was twenty feet from the ground at the outer end of and on the under side of a drooping limb of a large Douglas fir. It was very well concealed by the green sprays surrounding it and was barely visible from the ground, even after the birds had revealed its exact location by their numerous visits with food.

***Regulus calendula grinnelli.*** SITKA KINGLET.—This species was a plentiful winter resident, occurring in small flocks that fed very largely in low underbrush near the ground in the scattered short stretches of woods. The first birds were noted Dec. 3, and within a week they were fairly plentiful.

***Hylocichla ustulata ustulata.*** RUSSET-BACKED THRUSH.—This species was a very plentiful summer resident, each short stretch of woods having at least one pair, and frequently several. Two birds were noted for the first time in the spring on May 15, in underbrush at the side of a path in a wooded ravine, and almost at once they became fairly common. They breed late for it was not until June 17 that I found my first nest with four fresh eggs. Within a week, however, I had succeeded in finding ten others, the latest, on June 24, also with four fresh eggs. They were in bushes or small saplings, varying in height from two to seven feet from the ground, and where the woods were rather open they were usually in thickets or short stretches of underbrush. All were very similar in construction, being compactly, and rarely bulkily, built of weed stems, dead leaves, green moss, grasses and rootlets, well cupped and lined with either grasses or fine rootlets, and fragments of skeleton leaves. Four eggs are usually laid for in only three out of the eleven nests were there but three.

***Hylocichla guttata nanus.*** DWARF HERMIT THRUSH.—This species was a rather scarce migrant, and seen only at infrequent intervals. It evidently winters sparingly for one was noted Feb. 7 feeding in a thicket at the edge of a field. The first birds appeared in the spring April 14, two being seen in underbrush at the edge of a short stretch of woods.

***Planesticus migratorius propinquus.*** WESTERN ROBIN.—This species was quite plentiful during the fall, numerous large flocks being seen, but these gradually disappeared toward the latter part of October, and it was the last of February before they were of more than casual occurrence



again. One flock of thirty birds was seen Jan. 13, but at no other time during the winter were more than two or three birds noted together, and then only at long intervals. My first nest with three slightly incubated eggs was found April 14, and from that date through the 20th of June others were seen almost daily. Seemingly three eggs is the number usually laid for only three nests out of the twenty-five recorded in my note book held four. The usual situation chosen for the nest was in a bush or small sapling within five or six feet from the ground, a small Douglas fir being very frequently used. Several times they were found but a foot from the ground, and only once as high as twelve feet. One was in a small brush pile and another on the top of an old stump, but otherwise no originality in selecting a suitable site was displayed. This was quite different from the habits of the birds in the East, which place their nests practically anywhere, but this is to be more or less expected until these western birds acquire more confidence in man. About Seattle comparatively few show any preference as yet for the vicinity of houses, old slashings, short stretches of woods, and fields overgrown with scrubby underbrush being the spots where at present they can be found during the summer months.

**Ixoreus naevius naevius.** VARIED THRUSH.—This species was fairly plentiful during the winter months, small flocks of ten or twelve birds being seen in many of the short stretches of woods. They lingered through the middle of April, many being heard singing then, but after that date they gradually disappeared, and very few remained to breed. On May 28 a male was seen singing from the top of a tall fir in a wooded ravine in Ravenna Park, well within the city limits of Seattle, but a search for the nest proved unsuccessful.

**Sialia mexicana occidentalis.** WESTERN BLUEBIRD.—This species was a fairly plentiful summer resident, but was rather scarce during the winter months. After the latter part of November it was only at infrequent intervals that small flocks were seen, and it was the first week in March before they were common again, and found in pairs about slashings and open fields.

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## ONTARIO BIRD NOTES.

BY J. H. FLEMING.

THE following notes refer chiefly to the unpublished Ontario bird records of the eight years, 1921-1928, particularly in Toronto where I have been able to watch the changing conditions. The English Sparrow has finally adjusted itself to the disappearance of horse-drawn vehicles from our streets; the coming of the European Starling is too recent for the full effect of the disaster to be felt, but already feeding stations are being monopolized by it, and it may in the future be a decisive factor in preventing the spread of the introduced Ring-necked Pheasant by clearing up the winter food supply.

The period covered by this paper has been marked by Owl migrations of unusual interest, and by the spread into new territory of the Cardinal and the Mockingbird. Winter migrations of Hawks and Owls have become difficult to record; new roads have been built and the hunter brings his birds by motor to the taxidermist when formerly he sent them by post or express and thus provided a clue to their place of origin.

Members of the staff of the Royal Ontario Museum of Zoology have added much to our knowledge of Ontario birds and should, within the next two or three years, be in a position to publish a distributional list.

**Gavia immer.** LOON.—One taken off Toronto Island, December 17, 1918, in immature plumage; an adult taken at Inwood, Lambton County, January 6, 1920, was very thin and there were a few white feathers showing on the head; a male taken at the mouth of the Humber River, Toronto, on November 19, 1923, by Mr. Stuart L. Thompson, is in the R. O. M. Z.

The Loon recorded by me as *Gavia arctica* (Auk, XVII, 1900, p. 176) and afterwards as *Gavia immer* (Auk, XXIII, 1906, p. 452 (= p. 542)), a female in immature plumage taken on May 22, 1899 off Mimico, a suburb of Toronto, in Lake Ontario, has been returned to me from the National Museum of Canada where it has been for some years in the mounted collection. A careful comparison of this specimen proves that it belongs to the subspecies proposed by Dr. L. B. Bishop (Auk, XXXVIII, 1921, p. 367) as *Gavia immer classon*, a small race from the interior of North America to which he gave the English name of Lesser Black-billed Loon. The measurements of the bird when fresh, length 724 mm., wing 324 mm.

are small even for this subspecies. Dr. Bishop includes northern Ontario in its probable summer range so it is not surprising that a non-breeding bird should occur on Lake Ontario in May. This bird in number 21659 in my collection.

**Cephus mandtii.** MANDT'S GUILLEMOT.—A male in winter plumage taken at Toronto, December 11, 1920 is in my collection. The identification of this bird is important as the only previous Toronto record, a female taken December 10, 1895, was doubtfully recorded by me as *Cephus grylle* (Auk, XXIII, 1906, p. 441). I said, "It is possible this bird is *C. mandtii*, as its beak is small, and the plumage very white." The bird was in a sealed case and is believed to have since been destroyed.

**Alle alle.** DOVEKIE.—One taken during the last week of October, 1924, on Lake Mississippi, near Carleton Place, Lanark County, Ontario, was examined by Mr. Edward F. G. White of Ottawa and Mr. P. A. Taverner.

**Larus argentatus.** HERRING GULL.—Beginning possibly twenty years ago, certainly since 1911, this Gull has increased in numbers, and is now abundant at all seasons about Toronto. The creation of garbage dumps on the lake front provided added food, and the Gulls have since followed the changing position of these dumps inland from the water. The building of sea-walls has given added protection in all weathers, while the creation of new sand beaches, and the gradual clearing of the waters of Toronto Bay have also been factors in the increase of Gulls about Toronto. The increase has been general on the Great Lakes, where some breeding colonies were given protection by the Audubon Society. In 1910 New York State passed a bill protecting Gulls and they had long been protected in Ontario, though not effectually on the breeding grounds. The Migratory Birds Convention Act of 1916, however, has given general security to these birds.

Both Herring Gulls and Ring-billed Gulls were formerly scarce about Toronto Bay during the breeding season; now they may be counted by the hundred along the breakwaters leading into the harbor. Nearly all are non-breeding birds, but that some would breed if undisturbed is evident, the late Mr. C. W. Nash having picked up eggs of the Herring Gull that had been washed up on the shore, evidently laid by birds that frequented the eastern sand bar.

**Larus delawarensis.** RING-BILLED GULL.—A much less abundant species at Toronto than the Herring Gull, though the proportionate increase has been as great, and from the same causes. In summer the number is hardly a third of that of the Herring Gull, and this proportion decreases in winter.

**Larus franklini.** FRANKLIN'S GULL.—A female taken at Toronto, June 1, 1898, and recorded by me as *Larus atricilla*,<sup>1</sup> has been identified as *Larus franklini* by the late Dr. Jonathan Dwight. This bird is in first

<sup>1</sup> Auk, 1906, p. 442.

nuptial plumage, but the primary tips are worn, and the hood is only partially dark.

This leaves one Toronto record of *Larus atricilla*.<sup>1</sup> This bird I saw in 1917 when it was out of its case, and I have no reason to think it was wrongly identified; it is a fully adult bird with a hood, but I have not re-examined it.

**Larus philadelphia.** BONAPARTE'S GULL.—I have observed this Gull in increasing numbers at Toronto, and at the mouth of the Niagara River. Formerly fairly common in spring and fall, now a non-breeding resident, often in flocks of one hundred or more. The increase began about 1910, and flocks of three hundred or more are now not uncommon in May on the Niagara River.

**Sterna paradisæa.** ARCTIC TERN.—Mr. J. L. Baillie, Jr., has called my attention to an old specimen now in the Royal Ontario Museum of Zoology, taken at Toronto in May, 1891, and formerly in the collection of the Biological Society of Ontario. The label is in the handwriting of the late Mr. J. B. Williams.

**Pelecanus erythrorhynchos.** WHITE PELICAN.—A male No. 29825 in my collection was taken May 25, 1921, on Lake Ontario off Whitby, twenty-nine miles east of Toronto.

**Charitonetta albeola.** BUFFLE-HEAD.—Saw two on February 17, 1925, at Sunnyside, Toronto. One was a male in full plumage. A few other Toronto winter records are on file at the R. O. M. Z.

**Histrionicus histrionicus histrionicus.** EASTERN HARLEQUIN DUCK.—Two immature males were taken at Eastend, a few miles east of Toronto, on Lake Ontario, December 4, 1920. These were presented to me by the late Mr. John Maughan, and are now in my collection.

**Branta bernicla glaucogastra.** BRANT.—One alighted among Canada Geese in Jack Miner's ponds at Kingsville, Ontario, on October 27, 1918. It was seen by Mr. W. E. Saunders on November 4, and I saw it a year later at Mr. Miner's.

**Olor columbianus.** WHISTLING SWAN.—On December 6, 1922, I examined one that had been taken a day or two before on Lake Ontario between Brighton and Toronto. An immature male, now in the collection of the R. O. M. Z., was picked up with a broken wing in the lake off Fisher-man's Island, Toronto, on December 4, 1922. Another remained on Toronto Bay for several days after April 1, 1928; a photograph of this bird, taken by the 'Toronto Globe' photographer, was reproduced in that paper on April 6.

Mr. W. E. Saunders has recorded the increase of Whistling Swans near Kingsville, Ontario<sup>2</sup> only a few miles from the western end of Lake Erie. This increase began during the spring migration of 1921, and two years later Mr. Jack Miner estimated that on April 10 (1923), there were nearly one thousand Swans resting on the sand bars near Kingsville. At Niagara

<sup>1</sup> Trans. Can. Inst. III, 1891-92. Ornithological Report p. 41.

<sup>2</sup> Can. Field Nat. XXXVIII, 1924, pp. 26-27.

a flock went over the Falls on March 31, and another on April 8, (1923). The newspaper reports were exaggerated, but Mr. Hoyes Lloyd has published a careful account from eye-witnesses.<sup>1</sup> Six of the Swans that survived the April disaster were sent to Mr. Jack Miner and placed in his sanctuary.

The Kingsville flock received additional police protection in 1924 and Mr. W. E. Saunders, in a letter to a Toronto paper,<sup>2</sup> estimated that on April 5 there were one thousand birds in the flock. When protected the Swans soon became tame.

The first Swans arrived at Niagara Falls on March 4 (1924), but did not alight, and in April it was believed that only two had gone over the Falls. On April 9, a flock was reported near Bronte, twenty-five miles west of Toronto on Lake Ontario; a single bird was observed in Ashbridges Bay, Toronto, on April 12, and one was reported to have been taken at Schomberg, in York County, on April 22.

I am indebted to Mr. Hoyes Lloyd for the following notes, based on reports made to him by officers of the Royal Canadian Mounted Police, to whom the protection of the Swans at Kingsville and Niagara is entrusted.

1925. Kingsville—March 23, four to five hundred Swans seen on the lake; March 25–April 5, the Swans numbered approximately two thousand up to March 29 and gradually decreased until April 5, when all migrated north.

1926. Kingsville—first reported on March 22. Niagara Falls—April 6, a lone Swan noticed near the Maid of the Mist landing on the Canadian side, the only one reported in the Niagara Falls district that year.

1927. Kingsville—March 11, it was reported that several hundred Swans had arrived and that every protection was being afforded them; March 27, a report indicates that there had been about three thousand Swans at the most, along the lake shore, about the same as other years. The flight lasts about three weeks, during the first week the number gradually increases, the second week the flock is at its peak, and during the third week the numbers decrease. The Swans go up and down the lake shore for ten miles each way, and make Kingsville their headquarters, roosting along the sand bar each night. Ten or fifteen dead Swans drifted ashore during this spring; some of these were sent to Ottawa for post-mortem examination, and it was found that they had died from heavy intestinal infestation with a liver fluke. Considerable fighting among the Swans was reported on April 1, and it was thought this might have caused some deaths.

1928. Kingsville—one found dead during the spring was infested with a liver fluke.

*Rallus elegans.* KING RAIL.—One taken December 25, 1919, at Frenchman's Bay on Lake Ontario; the bird showed no signs of wounds or disease.

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<sup>1</sup> Can. Field Nat. XXXVII, 1923, p. 138.

<sup>2</sup> Toronto Globe, May 2, 1924.



**Coturnicops noveboracensis.** YELLOW RAIL.—A young bird taken in Ashbridge's Marsh, Toronto, by Mr. H. M. Sheppard, October 2, 1920.

**Falco islandus.** WHITE GYRFALCON.—An adult male taken at Oshawa harbor on Lake Ontario, November 15, 1927, by one of a group of hunters who were shooting Snowy Owls for sport. Mr. W. J. Stevenson recognized the bird and preserved it and it is now number 31776 in my collection.

This is an extreme example of the white phase of *candicans*, there are a few spots of black on the back and shoulders and the usual dusky wing tips.

**Falco sparverius sparverius.** SPARROW HAWK.—Winter records are unusual, one bird seen by Mr. Stuart L. Thompson at Toronto, January 22, 1922;<sup>1</sup> one seen December 23, 1925 at Lambton, west of Toronto by Dr. Paul Harrington;<sup>2</sup> one taken at Islington, a few miles west of Toronto, January 26, 1927, is now in the R. O. M. Z. I saw one at Toronto on November 29, 1927.

**Tyto alba pratincola.** AMERICAN BARN OWL.—I examined one on September 3, 1919, probably taken on the 1st near Kingsville, Essex County. One was taken alive at Norval, Halton County, June 13, 1923, by Mr. C. E. Cantelon. Mr. L. L. Snyder has given me the following records for publication: A mounted bird now in the R. O. M. Z., taken at Tobermory, Bruce County, about 1890, and formerly in the Owen Sound Collegiate Institute; one taken December 21, 1927, at Bow Park Farm, Brant County, which is now in the collection of Mr. W. G. Neff of Brantford; one taken in Tuscarora township, Brant County, prior to December 15, 1927, now in the collection of Mr. Stuart L. Thompson; one taken alive at St. Catharines, Lincoln County, about February 17, 1928, and sent to the Toronto Zoo.

**Scotiaptex nebulosa nebulosa.** GREAT GRAY OWL.—This Owl appeared in numbers in the country north of North Bay during November, 1922, and extended into southern Ontario in diminishing numbers till the end of February, 1923, coincident with a great flight of Richardson's Owls. A specimen shot at Woodville, Victoria County, about February 9, 1928, was sent to the R. O. M. Z. by Dr. Fred Starr.

**Cryptoglaux funerea richardsoni.** RICHARDSON'S OWL.—A flight of these Owls occurred during the winter of 1922-23 through Ontario. The first were taken at Cobalt and Elk lake in Northern Ontario, between October 20 and November 7; in Muskoka the first record was at Craigie Lea on November 17. The first Toronto bird was taken December 22, and they continued to be taken in the immediate vicinity of the city till January 25.

In all I examined twenty of these Owls, and this could have been only a small part of the number taken that winter. Single records in Southern

<sup>1</sup> Can. Field Nat. XXXVI, 1922, p. 14.

<sup>2</sup> Can. Field Nat. XL, 1926, p. 9.

Ontario are not unusual in winter but this is the first flight of Richardson's Owl I have any record of in the province.

**Bubo virginianus subarcticus.** ARCTIC HORNED OWL.—I examined one January 21, 1920, taken on Pelee Island, Lake Erie, a few days before. One was killed at Toronto, January 25 of the same year.

**Nyctea nyctea.** SNOWY OWL.—The greatest flight I have any record of in Ontario took place in the winter of 1926-27. The first record was at Toronto on November 13. A female shot at Acton, Halton County, on November 14, is in the R. O. M. Z. On November 16, they were noted in Algonquin Park by Mr. Mark Robinson. To November 18, thirty specimens had been received by one taxidermist in Toronto. Up to December 31, when the flight eased up, I examined over sixty birds which must have been only a small part of those taken in Ontario. The last record which I had was an almost spotless male taken at Arthur, Wellington County, March 10, 1927, although the R. O. M. Z. has records of odd birds seen during March, April and May. The last record was a bird seen until June 12, at Long Point, Norfolk County.<sup>1</sup>

**Surnia ulula caparoch.** HAWK OWL.—A small migration reached Southern Ontario in November 1914 and another in January 1920. At Toronto one was taken October 27, 1922, and another October 18, 1924. There has been a decided increase of records in southern Ontario in the last fifteen years.

**Nuttallornis borealis.** OLIVE-SIDED FLYCATCHER.—As a migrant this species has increased at Toronto. Between August 9 and 26, 1921, I saw five in my garden, and four between August 18 and September 12, 1926.

**Perisoreus canadensis canadensis.** CANADA JAY.—Several were seen by Mr. J. Townson at Fisherman's Island, Toronto, on October 8, 1911. One was seen on October 31, 1921 by Mr. J. H. Ames, two miles south of Woodbridge, a few miles north of Toronto.

**Sturnus vulgaris.** STARLING.—First noticed in 1919, the Starling has increased with surprising rapidity and flocks of considerable size are now not uncommon in winter in southern Ontario. The Toronto records to 1925 have been given by Snyder and Baillie.<sup>2</sup> Mr. Harrison F. Lewis has published an excellent review of the bird's economic status in his 'A Distributional and Economic Study of the European Starling in Ontario.'<sup>3</sup>

**Quiscalus quiscula seneus.** BRONZED GRACKLE.—A sudden increase in nesting Grackles occurred in the spring of 1919, in the vicinity of my garden in Toronto. For many years there had been but one nesting place, and usually only one nest and that some distance away, but that spring a pair chose a deserted and roofless bird-box that was fixed to the top of a

<sup>1</sup> Auk XLV, 1928, pp. 99-100.

<sup>2</sup> Can. Field Nat. XXXIX, 1925, pp. 149-150.

<sup>3</sup> University of Toronto Studies, Biological Series No. 30. Toronto, 1927.

slender twenty-foot pole in my garden. The birds, on being driven out, built a second nest in the eaves-trough of the next house. Altogether four or five pairs raised young in various situations on nearby houses. Young Grackles outnumbered young Robins in the garden that summer and this situation was common to other places in Toronto. Since then the Grackles have been everywhere about the city, though possibly not so abundant as in 1919.

***Pinicola enucleator eschatosus*.** NEWFOUNDLAND PINE GROSBEEK.—That there are two forms of Pine Grosbeaks in Ontario in winter has already been pointed out by Major Allan Brooks.<sup>1</sup> The common form is *leucura*, and it has remained for Mr. W. E. Clyde Todd to fix the identity of the other as *eschatosus* of Oberholser.<sup>2</sup> Mr. Todd has selected a male taken January 15, 1895, at Toronto (No. 5467, Coll. J. H. F.) as representing this race.

***Loxia curvirostra percna*.** NEWFOUNDLAND CROSSBILL.—A red male taken at Toronto, April 9, 1896 (No. 1887, Coll. J. H. F.) agrees with *percna*<sup>3</sup> of Bent.

***Passer domesticus*.** HOUSE SPARROW.—A decrease in numbers was noted at Toronto in 1924, and a marked decrease in both city and country in 1925, owing possibly to a cold spring. In 1927 a slight increase began, which has continued through 1928, but the present number in Toronto is considerably less than ten years earlier.

***Cardinalis cardinalis cardinalis*.** CARDINAL.—Recent records indicate a permanent extension of range in southern Ontario.

A male was seen by Mr. J. H. Ames at Toronto, May 15, 1921; another was seen not far from my garden May 19, 1922. A pair remained during the winter of 1923-24, at Georgetown, Halton County. Several Toronto records have been made by members of the Brodie Club and are on file at the R. O. M. Z.

The Cardinal is now a rare permanent resident at Toronto.

***Bombycilla garrula*.** BOHEMIAN WAXWING.—On January 6, 1920, Mr. J. H. Ames saw a flock of between twenty and thirty of these Waxwings feeding on mountain ash berries on Charles Street, Toronto. Four days later the flock had increased to nearly one hundred and there were a few remaining at the end of the month. On December 7, 1925, Mr. J. Townson observed a flock of eight of these birds in a mountain ash tree on Leuty Avenue, East Toronto.

***Protonotaria citrea*.** PROTHONOTARY WARBLER.—Mr. Robert V. Lindsay took a female near Pottageville, York County, on May 20, 1928. The late J. Hughes Samuel saw two at Toronto Island, May 13, 1900, and his diary gives a clear description of them. The record was not used, at his request, but left for a confirmatory record.

<sup>1</sup> Condor, XXIV, 1922, p. 87.

<sup>2</sup> Proc. Biol. Soc. Washington, XXVII, 1914, p. 51.

<sup>3</sup> Smithsonian Miscell. Coll., 60, No. 15, 1912.

**Vermivora chrysoptera.** GOLDEN-WINGED WARBLER.—A female taken in my garden, May 21, 1928, is the first definite Toronto record.

**Mimus polyglottos polyglottos.** MOCKINGBIRD.—Like the Cardinal the Mockingbird has extended its range in southern Ontario. A female was taken by Mr. A. A. Wood at Duncrief, about fifteen miles north-west of London, January 6, 1921, and one was recorded at London during the winter of 1922-23 by Mr. W. E. Saunders, who also reviews the previous Ontario records.<sup>1</sup> Two were reported at Hamilton during the winter of 1927-28, one of which has been recorded,<sup>2</sup> and I saw one at McNab, in Lincoln County, May 12, 1928.

**Penthestes hudsonicus nigricans.** LABRADOR CHICKADEE.—A pair taken by Mr. A. A. Wood at Coldstream, Middlesex County, the male October 31, the female November 28, 1919, and recorded by him as *P. h. hudsonicus*.<sup>3</sup> These are now in my collection and the male has been compared by Mr. Outram Bangs with the type of *nigricans*, of Townsend.<sup>4</sup>

**Polioptila caerulea caerulea.** BLUE-GRAY GNATCATCHER.—One taken at Toronto on May 6, 1928, by Mr. Stuart Thompson is the fourth Toronto record. One was positively identified in a ravine at East Toronto on the same day by Mr. R. J. Rutter.

267 Rusholme Rd. Toronto, 4, Ontario.

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<sup>1</sup> Can. Field Nat. XXXVII, 1923, pp. 116-17.

<sup>2</sup> Can. Field Nat. XLIII, 1929, p. 41.

<sup>3</sup> Can. Field Nat. XXXV, 1921, p. 100.

<sup>4</sup> Auk, XXXIII, 1916, p. 74.

## GENERAL NOTES.

**Leach's Petrel in Ohio.**—On May 16, 1929, a Dayton lad picked up from a street of this city a dead bird; he took it to his teacher, Miss Winifred Nutting, who sent it to me for the local museum. After examining it I concluded it could be none other than Leach's Petrel (*Oceanodroma leucorhoa*). Believing it to be the first known specimen for Ohio, I wrote to Prof. J. S. Hine at Ohio State University and he replied that he had no knowledge of a previous Ohio record. On preparing the specimen a bruised spot on the skull seemed to indicate that the bird met its death by striking some object while in flight. The stomach was empty although the bird was not emaciated. Sex determination was not positive but it was believed to be a female. The specimen was prepared as a skin and it was later decided to present it to the Ohio State Museum collection. On receiving the specimen Prof. Hine verified the identification. It may not be out of place to add that in all probability the occurrence of this specimen in southwestern Ohio constitutes the most western inland record for the species. It is with a great deal of pleasure that I report this addition to the Ohio state list.—BEN. J. BLINCOE, *Dayton, Ohio.*

**Bonaparte's Gull at Lexington, Virginia.**—On April 29, 1929, I saw a Bonaparte's Gull (*Larus philadelphia*) at Cameron's Pond near Lexington, in the Valley of Virginia. When first seen it was perched on a post out in the center of the small, shallow pond. When I came near enough for a good view it had left the post and was swimming on the pond. It was not at all shy and let me walk all around the pond watching it at close range. It stayed in the same vicinity for three or four days and was later seen by a farmer several times, at a small cattle pool in a lonely spot. I observed it for some time with 8x power glasses, getting at times within thirty yards range. The head and throat appeared almost black, the dark color coming much farther down on the throat than on the back of the neck. The nape and underparts were pure white, the bill black, and the back and wings light pearl-gray. The primaries were black at the tips, with white between the black and the pearl. The only other record of the Bonaparte's Gull for this part of the Valley of Virginia is of one seen by Mr. M. G. Lewis of Lexington in 1928, and curiously enough on the same date, April 29.—JAMES J. MURRAY, *Lexington, Virginia.*

**White Pelicans Killed by Lightning.**—At Granger, Salt Lake County, Utah, August 16, 1929, during a lightning storm, a service station attendant counted twenty-seven Pelicans flying at about 500 feet. While he was watching them there was a loud clap of thunder and immediately the birds began falling. All of them were dead when they struck the ground and none were seen continuing the flight. We verified the story by counting sixteen dead American White Pelicans (*Pelecanus erythrorhynchos*)



in an area of less than ten acres. Several of the birds had been carried away by people before the count was made.—JOHN W. SUGDEN, *Judge Building, Salt Lake City, Utah.*

**Bahama Pintail in Wisconsin.**—On September 23, 1929, I received here at the Museum the remains of what I later identified as *Anas bahamensis*, the Bahama Pintail. A letter from Mr. George Overton of Oshkosh, Wisconsin, followed, in which he stated particulars concerning the taking of the bird. On September 21, 1929, Miss Catherine Clark of Larsen, Wisconsin, was hunting on Lake Winneconne and while looking among the rushes for a Duck she had killed, picked up a cold Duck that had been shot and was strange to her. Recognizing it as uncommon she arrived at the conclusion that it had been shot by a hunter who thought it a Wood Duck and left it on the water. Fortunately, or rather unfortunately, she saved only the wings, tail feathers, head and feet, but brought the parts to Mr. Overton who in turn sent them to me for identification. Decomposition had not set in, and I now have the parts preserved here at the Museum, along with painted color sketches made from the flesh.

At first the occurrence of the bird here in Wisconsin seemed incredible, but I have been unable to learn of any game farms or private sanctuaries from which it may have escaped. The suggestion, that unusual weather conditions, coupled with the recent hurricanes along the southern coasts may have blown the bird off its normal course does not seem entirely out of order. Phillips in 'A Natural History of the Ducks' credits but one previous North American record, a bird taken at Cape Canaveral, Florida, by W. S. Brooks in 1913.—OWEN J. GROMME, *Milwaukee Public Museum, Milwaukee, Wis.*

**White Herons in Dutchess County, N. Y.**—On July 21, 1929, two Little Blue Herons (*Florida caerulea*) were seen on Grassmere Millpond at Rhinebeck, N. Y. by Miss Helen Crosby, and thereafter reports of this species, never before recorded in this county, were received in increasing numbers until on August 14, when the writer took a county census in a motor and was able to list a total of forty-eight in a single day on the various ponds and lakes. This agrees with a recent report from Putnam County listing thirty-six in a single day. All the Little Blue Herons were in immature plumage. Four American Egrets (*Casmerodius egretta*) were also seen on August 2 in close proximity to the Little Blue Herons, and not far off two individuals which could have been nothing but Snowy Egrets (*Egretta candidissima*). They kept themselves apart from the rest, scratching in the mud, holding themselves at a different body angle from the Little Blues, and occasionally making rapid darts in one direction or another. When they flew, they distinctly showed dark legs and bright yellow feet. I have witnesses who noted this peculiarity. This species is also new to Dutchess County. Since August 14 the Little Blue Herons have apparently still been present in numbers, but not as a rule in as large groups.

On August 28 the game warden of the County, Mr. Irving Lindley, called me on the telephone much excited over what he had found on a farm along Sprout Creek near Fishkill Plains. The farmer, a Mr. DePalma, had reported that large white birds were killing his Ducks and upon investigation he found that the Little Blue Herons had congregated in large numbers and were attacking and killing his young Pekins.

Accordingly, early on August 29, I visited the farm in question and interviewed the farmer and his helpers, Mr. Scriber and his son.

Three days before they had let out two hundred and fifty young Ducks which wandered up the stream for a distance of a half a mile. The next day they found that less than a hundred had returned and they went out to look for the others.

Upon a large meadow, half a mile away, they saw a very large flock of white Herons, most of them apparently in combat with some objects that could not be seen at first. They were in groups of four and five, and as the men came nearer they saw that the battle was being waged even in the stream. As the men approached the Herons took to flight and according to their estimate there were one hundred and fifty birds. Allowing for exaggeration we can readily believe that there were sixty or eighty. What they had been attacking proved to be the missing Pekin Ducks.

During the battle one Little Blue Heron was seen to carry a young Duck from the stream to the meadow.

During my examination of the territory I found enough dead bodies of Ducks and evidences of battle, and a sufficient number of Little Blue Herons in the vicinity, to convince me that the story was absolutely correct in every detail.

The young Ducks killed weighed from one and one half pounds to four pounds, and the young bird that was carried from the stream was about a pound and one-half.

Examination of the bodies showed that in each instance the Duck had received a thrust between the shoulders and that later it was disembowelled and the entrails eaten.—ALLEN FROST, 9 Holmes St., Poughkeepsie, N. Y.

**Egret in Crawford County, Pa.**—On July 26, 1929, I was passing through Hartstown, Pa., which is located at the lower end of Pymatuning Swamp when I was met by Rev. J. A. Hazlett who informed me of a large white bird that he had seen in the swamp. We immediately went back to the spot where it had been seen and I easily identified it as an American Egret (*Casmerodius egretta*).—STANLEY J. SEIPLE, Greenville, Pa.

**Egret near Lake Erie.**—On August 16, 1929, I observed twelve American Egrets (*Casmerodius egretta*) flying about the marsh at Winans Point four miles south of Port Clinton, Ohio. About sundown they went to roost in one of the large elm trees standing on the Point. I am familiar with the birds in the South and could easily identify them by their size and black legs.—JOHN B. SEMPLE, Sewickly, Pa.

**Yellow-crowned Night Heron, Taken at Wheeling, West Virginia.**

—On August 4, a fresh immature specimen of the Yellow-crowned Night Heron (*Nyctinassa violacea*) was brought to the Oglebay Park Natural History Museum for identification and mounting. The bird was given to one of the Park guides by an unidentified man who said he had shot it near his home in the vicinity of Wheeling. The identification of this Heron has been checked by Mr. A. H. Howell of the U. S. Bureau of Biological Survey. —A. B. BROOKS, *Park Naturalist, Oglebay Park, Wheeling, West Virginia.*

**Another Yellow-crowned Night Heron (*Nyctanassa violacea*) at Ipswich, Mass.**

—On August 3, 1929, at Sagamore Pond, Ipswich, Mr. F. H. Allen and I were attracted by a bird that suggested a Great Blue Heron as it flew by us, but was decidedly smaller. It alighted on the shore of the pond where we were able to approach it within fifty yards and examine it at leisure with eight power binoculars. The large dark and thick bill stamped it as a Yellow-crown, while its general plumage was noticeably different from that of the immature Black-crowned Herons, which were abundant at the pond. The exposed parts of the tibiae were yellow, the tarsi were yellowish-green and it stood higher than a Black-crown. No aluminum band was worn. There was a faintly marked dark line through the face below the eye. The upper parts and neck were spotted with white, and there was a faint but distinct shade of violaceous gray on the back and neck. In flight the dark remiges, contrasting with the lighter wing coverts, and the graceful curve of the neck suggested a small edition of the Great Blue Heron, and the appearance in flight was entirely different from that of the Black-crowned Night Heron. On one occasion this Yellow-crown attempted to alight in a thicket of birches already occupied by a multitude of Black-crowns who appeared to resent the intrusion, squawked loudly and flew up from their perches. The Yellow-crown turned quickly and fled, uttering his calls which suggest somewhat the calls of the Green Heron, and are quite different from those of the Black-crowned Night Heron. Sagamore Pond is about a mile from the nesting place I had found the year before of a pair of Yellow-crowned Night Herons who successfully reared four young, the most northern breeding record of this bird. (Bull. Essex County Ornithological Club, No. 10, 1928.)—CHARLES W. TOWNSEND, *Ipswich, Mass.*

**Roseate Spoonbill in Florida.**—Referring to the articles concerning these birds in recent issues of 'The Auk' (R. J. Longstreet, *The Auk*, XLVI, 105, and Donald J. Nicholson, *ibid* 381), leads me to submit some observations.

There is in my collection a Roseate Spoonbill (*Ajaia ajaja*) juv., taken by L. W. Fisher on reefs in Mosquito Lagoon, opposite Oak Hill, Florida, June 15, 1917. It was presented to me by Mrs. L. E. Wilson, New Smyrna, Florida. I was informed that these birds, known to the fishermen as "Pink Curlew," were more or less regularly found in that locality at that

time. At my request Mrs. S. J. Sweett, New Smyrna, Mrs. Wilson's daughter, has made recent inquiry as to the status of these birds in the Mosquito Lagoon region. She reports upon the authority of Wallace Cook, who knows that district, having been warden for the Canaveral Club twenty-five years ago, that at that time there was a flock of about a hundred and fifty of these birds there. For the past fifteen years he estimates their number to have been about the same as this year (1929), some sixty to seventy birds. He has never known them to nest there but thinks they go to the "Big Cypress" to nest. Several other persons from the vicinity of the Haulover Canal verified the above statement as to these birds being found in that vicinity but they differed as to the number of birds seen.—AMOS W. BUTLER, 52 Downey Avenue, Indianapolis, Indiana.

**Wilson's Phalarope (*Steganopus tricolor*) in Camden County, N. J.**

—On September 2, a bird of this species in winter plumage was found feeding on a tidal mud flat along Newton Creek, West Collingswood, N. J. The Phalarope with its thin neck, small head and light coloration stood out in marked contrast to a group of Yellow-legs with which it was associated. The bird was very active—swimming about in a small pool, darting its slender black bill from side to side and sometimes turning its body half way around as it fed. Once it came out on the bare mud to plume and arrange its feathers—showing its pale yellow legs, white rump and plain wings.

During the half hour that the bird was under observation, it confined its activities to a space of a few square yards.

On September 15, a bird of the same species, probably one of the same flock was found in almost the same spot and was observed by Messrs. Gillespie, Livingston, Weyl and Yoder of the Delaware Valley Ornithological Club.

On September 18, the bird was again present. Each of these times as before, it was feeding with the Yellow-legs.—JULIAN K. POTTER, Collingswood, N. J.

**Northern Phalarope in Jackson Co., Mich.**—On September 6, 1929, J. and R. Barley, of Toledo, Ohio, and the writer observed a Northern Phalarope (*Lobipes lobatus*) at a natural musk-rat farm near Napoleon, Mich. We first saw the bird in flight at some distance. Its note and white wing stripe reminded us of a Sanderling until it alighted for a moment among a flock of Teal on the water when we knew at once that it must be a Phalarope. Later we saw it at closer range in company with Yellow-legs and were enabled to establish its identity beyond doubt.—ROGER TORY PETERSON, 545 W. 164th St., New York City, N. Y.

**Nest and Eggs of *Pisobia ruficollis* (Pall.).**—On June 11, 1913, while collecting about Emma Harbor at the head of Providence Bay, east Siberia, I had the good fortune to find two nests of the Rufous-necked Sandpiper (*Pisobia ruficollis* (Pall.)). I believe they are, as yet, un-

described. The delay in this matter is due to the specimens having been lost by another, and eventually found by me.

The nests, mere hollows on mounds of tundra, were about three inches deep, and lined, almost flush with the rims, with dry leaves of the dwarf willow. In one nest were four fresh eggs; in the other three; the male parent on the former, while upon the latter was a female. Both, upon leaving the nests, fluttered along close to the ground in the characteristic manner of Sandpipers. The measurements of the eggs in millimeters (number 3570 M. C. Z.) are: 29 x 22.5; 29.5 x 22.5; 30 x 22; 29.5 x 22. In form the eggs are pyriform. The ground of light vinaceous-buff is heavily spotted, especially at the larger end, with small specks and blotches of dark reddish-brown. The second clutch has a lighter ground color, and is somewhat less heavily spotted.—W. SPRAGUE BROOKS, *Museum Comp. Zool., Cambridge, Mass.*

**The Marbled Godwit (*Limosa fedoa*) in Essex Co., Mass.**—On September 1, 1929, Messrs. C. E. Clarke, George Perry, S. Gilbert Emilio, John Conkey and I made a bird-census in the country around Newburyport. The great flats of the bay back of Plum Island were covered with shore-birds, but lack of time prevented the careful examination of but a small sector of this territory. As we stood on the dunes at the edge of the beach overlooking the flats, a large shore-bird was seen flying along the water's edge several hundred yards away with Herring Gulls and Black-bellied Plover. Thanks to experience in the far West I instantly recognized this bird as a Marbled Godwit. Its great size, long straight bill, general warm brown coloration, and blackish tips to the primaries, make this species readily recognizable at very great distances. Needless to say we approached as rapidly as caution would permit, while the obliging bird proceeded to go to sleep. When about seventy yards away, it was aroused by the increasing restlessness of other birds, nearby and proceeded to run about in a somewhat aimless and nervous manner, gradually edging away towards the border of a marsh where there was a dike of boulders. I thereupon made a detour and sneaked down behind the far side of the dike in the faint hope of getting near enough to collect it with "a game-getter." This proved to be impossible, but I did get within shot-gun range, and we all had an excellent observation. The bird was immature.

On September 5, presumably the same bird was found in the same place by Messrs. Emilio and Stubbs and Dr. C. W. Townsend.

The locality was revisited on September 15 by Messrs. Clarke, Perry, Francis H. Allen and the writer. Either the same or another bird was again present. Fortunately Mr. LeRoy H. Smith of Haverhill, the owner of a nearby bungalow, was interested in this bird and the desirability of collecting it. He very kindly produced a shot gun and rendered able assistance in stalking through soft black mud. The specimen was presented to the Boston Society of Natural History.

As is well known, the Marbled Godwit was formerly a regular transient



on the Atlantic coast, and there were six definite records for Essex County up to 1888. Since this time it has been one of the rarest of casual shore-birds, and there is but one recent record.—LUDLOW GRISCOM, *Museum of Comparative Zoölogy, Cambridge, Mass.*

**Upland Plover (*Bartramia longicauda*) in Oregon.**—In 'The Auk' (Vol. XLVI, no. 2, 1929, p. 219), after reviewing the evidence on which this species had attained a place on the list of Oregon birds, I made the following statement: "This species should be placed on the hypothetical list in the future." Since this was published, I have had the pleasure of looking over a collection of local bird skins prepared by Overton Dowell, Jr., and, much to my pleasure and surprise, I found an adult male *Bartramia longicauda* collected by Mr. Dowell himself at Summitt Prairie, forty-five miles east of Prineville, Crook County, Oregon, on August 9, 1919. Since the specimen was taken, it has been laid away with a small series of Greater Yellow-legs (*Totanus melanoleucus*) in Mr. Dowell's collection and its identity and rarity in Oregon never suspected until I happened to see it. Thus, the question of the occurrence of the Upland Plover in Oregon as a straggler is settled in the affirmative.—STANLEY G. JEWETT, *Portland, Oregon.*

**Companionate Feeding Activities of a Spotted Sandpiper and a Red-winged Blackbird.**—A seemingly unusual occurrence of a Spotted Sandpiper (*Actitis macularia*) and a Red-winged Blackbird (*Agelaius phoeniceus*) feeding under a partnership agreement came to my notice for a second time the past summer, with a number of repeats. It is not unusual for some of the brooks to dry up in mid-summer and the smaller fry, consisting of pollywogs, shiners and aquatic insects, which do not escape to the deeper pools when the water becomes stagnant, then afford abundant food for both snakes and birds. Such species as the Bittern, Green Heron, Woodcock, Sandpipers, Crow, Blackbirds, Song Sparrow and Northern Water-Thrush utilize such a food supply commonly. But when I saw a Sandpiper and a Blackbird feeding together, first in 1928 and again several times in 1929, it aroused my curiosity sufficiently to make careful observations. On July 16, 1929, the two birds were seen to approach a small pool about eighteen inches wide and six inches deep. The Sandpiper waded along, dove its bill under water—which was clear enough to see the bottom—and drew forth a small cylindrical object about an inch long, probed it and swallowed something, discarding the shell. Later I identified these aquatic insects as the bottom feeding larvae of the caddis-fly. Often the Sandpiper entered the water up to its breast, immersing the entire head to obtain one of these larvae, invariably bringing it to the shore, perhaps to eat, but collected a number without eating more than a half of them. Then I discovered to my surprise that the Red-wing was waiting for just this thing to happen and, following its host, picked up and extracted the larvae, discarding the case as did the Sand-

piper; but whereas the latter did so without aid other than its long bill, the Blackbird resorted to holding the "walking stick," as these larvae are commonly called, in its feet to extract the tenant. Sometimes the Blackbird went so far as to immerse its own head to gather prey when such was within reach or its host was slow in handing out the food.—LEWIS O. SHELLEY, *East Westmoreland, N. H.*

**Sexual Differentiation in the Plumage of the Black-bellied Plover.**—It is my purpose to present briefly some evidence in support of the belief that adult male and female Black-bellied Plover (*Squatarola squatarola*) have distinct nuptial plumages, the females never acquiring a completely black breast.

While collecting birds at Long Point on Lake Erie, Ontario, in the spring of 1928, a series of twenty-one Black-bellied Plover was secured. From one to four specimens were secured on thirteen different days between May 7 and 28. The series should therefore fairly represent a cross-section of the birds on their way to the breeding grounds. Careful examination of the genitalia disclosed that the gonads were enlarged, the development being strikingly uniform throughout the series. However, the degree of maturity as indicated by the plumages was not uniform.

On returning to the Museum the 21 specimens were arranged in a series beginning with the one having the least black on the ventral surface at one end and ending with the one having the blackest breast at the other. Arranged in this way the gradation in the amount of black was almost complete. There was however, a definite break in the series at one point. It was then discovered that all of those at the light-breasted end of the series were females and those at the dark-breasted end of the series, males. The male which exhibited the most white feathers ventrally is darker than the darkest female.

The sexual differences are also apparent when the dorsal areas of the specimens are examined. Males are whiter on the head and have more contrasting black and white markings on the back, less of the gray characteristic of winter plumage. Females, particularly young individuals, retain considerable of their winter feathers as pointed out by Dwight.<sup>1</sup>

In the matter of age it may be stated that there appears to be at present no way to separate with certainty birds in their first year from older ones. Although the three lightest of the light-breasted females are considered by me as being within their first year, it is apparent that there is no sharp difference between these and the remainder of the series of females.

The sexual difference in plumages which has been noted in migrant birds probably persists on the breeding ground. Such material as I have been able to examine indicates that this is true and I quote a few references from the literature which support my observation.

<sup>1</sup> Dwight, Dr. Jonathan. The Moults of the North American Shore Birds Limicolae. ('The Auk,' vol. XVII, No. 4, p. 384.)

Seeböhm and Brown,<sup>1</sup> speaking of observations made on breeding birds in northern Europe, say that "The males appeared darker to the eye, black-breasted, and whiter over the eye; but some females are much darker than others, and are *nearly*<sup>2</sup> as dark as some males." Trevor-Battye,<sup>3</sup> speaking of breeding birds in northern Russia, states that "The breasts of the males we shot were all equally black, but those of females varied a great deal."

There is one other point of difference in the sexes of this species which I have found to be but rarely referred to in descriptive accounts. This is in regard to the degree of blackness, in other words, the actual local color of the dark feathers. In the males the feathers are intensely black with a metallic luster, while the dark feathers of females are brownish black. This difference is best exhibited in fresh skins.

It would appear that the species is in a primary stage of sex differentiation—L. L. SNYDER, *Royal Ontario Museum of Zoology, Toronto, Ont.*

**Golden Plover (*Pluvialis dominicus*) near Dover, Delaware.**—On the afternoon of August 4, 1929, I saw a flock of five Golden Plover from the beach near Kittshammock, Del. The flock, all of which appeared to be adults, was flying north along the beach. Since the tide was near flood and it was late in the afternoon they were probably seeking a resting place for the night. A good view of the birds was obtained as they flared overhead, the black axillars and dark tail being the most conspicuous characters aside from the dark blotches on the bellies of the two males. No note was heard.

Kittshammock is a summer resort on the Delaware Bay about eight miles southeast of Dover.—R. O. BENDER, *Ridley Park, Pa.*

**A Bobwhite × California Quail Hybrid.**—These two partridges were introduced into Utah, many years ago and at the time of my sojourn at Salt Lake City, in 1895, both were plentiful in that vicinity. About December 14 of that year, while shooting at a valley farm south of the city, I killed a fine plumaged male bird that was undoubtedly a cross between the two species. My pointer had made game in a little island of rocks and wild rose bushes, fifty yards out in plowed ground and I followed. A full covey, apparently of Bobwhites, whirled up from the close cover and I dropped one with my right barrel. At the shot a second covey arose from close to where the first had been and I caught one of these with my other barrel. This bird was a normal Bobwhite but the other was the hybrid. The general color effect was similar to a Bobwhite but the pattern was modified and there were two straight plumes two inches long on the head. These recalled the Plumed Quail but I saw at

<sup>1</sup> Seeböhm, Henry and Brown, John A. Harvie, *Notes on the Birds of the Lower Petchora. 'The Ibis,' Third Series, No. XXII, April, 1876, p. 228.*

<sup>2</sup> Italics mine.

<sup>3</sup> Trevor-Battye, Aubyn. *Notes on the Birds of Kolguev (In "Ice-bound on Kolguev"), p. 432.*

once that they were the soft crest feathers of the Bobwhite much extended in length. Another trip to the same spot resulted in securing two female California Quail which were normal except that the throats were black like the male. With hybridism known to exist in the flock this discrepancy might have been due to the same cause.

All three birds were sent to a taxidermist but upon returning for them several months later I found that he had gone out of business and no trace of my birds could be found.—C. E. H. AIKEN, *Colorado Springs, Colo.*

**The Turkey Vulture in Western New York.**—On September 10, 1929, I had a clear view of a Turkey Vulture (*Cathartes aura septentrionalis*) soaring over the slopes of Pine Hill between Naples and North Cohocton, New York. The bird was observed close at hand as it turned and circled in the wind. Mr. E. H. Wetmore of Naples, N. Y., who was with me said that he had heard several reports of this species during the last two years in this general region where it was attracting the attention of farmers as an unusual bird. This observation brought to mind an earlier record for this same area of a single bird that I saw on July 12, 1908, on West River about a mile above its mouth at the southern end of Canandaigua Lake. This individual flew up from a pile of drift and flapped heavily around a bend in the stream. Following cautiously I found it perched in a dead tree where I watched it for several minutes. The identification in both instances was certain.—ALEXANDER WETMORE, *U. S. National Museum, Washington, D. C.*

**The Black Vulture in South-west Virginia.**—In view of the many reports that indicate a recent extension of the range of the Black Vulture (*Coragyps urubu*), I was interested, on September 4, 1929, to note four individuals of that species with some Turkey Vultures at a point about ten miles east of Abingdon, Washington Co., Va. This spot is in a valley with an elevation of something over 2000 feet, well in the interior of the Appalachian mountain region. I had not noted the Black Vulture on former automobile trips through that region. While I was watching them a Turkey Vulture was perched on a fence post spreading its wings to dry after a rain. A Black Vulture, with the usual labored wing flaps, flew to the post and, crowding the other off, took the perch. An hour later I saw a flock of some twenty Black Vultures near Wytheville, Wythe Co., Va., at a still higher altitude and just about where the Carolinian and Alleghanian zones meet in that part of the state. It seems that this bird, typical of the Floridian and Austroriparian faunas, is becoming acclimated in the Carolinian and even, to some extent, in the Alleghanian zone.—JAMES J. MURRAY, *Lexington, Va.*

**An Osprey Tragedy.**—At Blue Hill, Maine, there was formerly a great number of granite quarries and to place these huge blocks of stone on board of outgoing vessels, an immense derrick was erected down by the

waters of the bay. The industry has long since been abandoned but the derrick stands and on top of it year after year the Ospreys have a nest which is occupied every season. This year I was so situated that I could watch their movements on the nest through the glasses. They reared two young ones who by the middle of July were in flight and later on were able to take care of themselves. I mention this because after the incident I am about to relate, one of these young birds disappeared and I am of the opinion that it was the victim whose tragic end I saw.

About the middle of August, the exact date I cannot fix now, my wife, my daughter and myself were coming across the bridge at Blue Hill Falls. The Falls are created by the tides going in and out through a narrow neck into a large salt water pond extending some miles back from the bay. Just as we crossed the bridge we saw the Osprey struggling with a large fish, about sixty feet above the water; suddenly fish and bird plunged down and fell into the water like a stone. We watched and saw the bird struggling, apparently to get away from the fish, flapping its wings in the water but it disappeared and we waited to see if it would come up, but it did not. It was down too long not to have been drowned. Evidently it could not get released from the fish, its talons being too deeply imbedded in the body of the latter.

About two weeks after on the other side of this bay, my daughter and I were attracted by the wings of a comparatively large bird sticking up through the seaweed, having been rolled up there by the tide. The tides rise and fall at Blue Hill about fifteen feet. We disclosed the remains and found it was an Osprey and about the size, I would judge to have been the bird that I knew in connection with the nest on the derrick. At any rate it was an Osprey and after two weeks in the water was somewhat decomposed. I should say, from circumstantial evidence that this was the bird that we saw being drowned.

Some years ago sitting on the verandah of the house of a friend, we saw an Osprey struggling with a fairly large bluefish which had been taken from the waters in front of the house which was situated on the Jersey coast. It evidently was having difficulty in holding the struggling fish and finally was compelled to let it go and the fish dropped right onto the lawn in front of the house. From the noises made by the bird I am sure it was swearing.

Through a mutual friend, Dr. Maxon of the National Herbarium in Washington, I got in communication with Dr. Thomas Barbour of Cambridge, Massachusetts, who has written me that he also once saw an Osprey drawn down under water while at Monmouth Beach, New Jersey, about 1903 or 1904. The Ospreys had been feeding regularly on weakfish but just at the time of this occurrence some very large bluefish were running.—WILLIAM McADOO, *New York City, N. Y.*

**Duck Hawk and the Evening Incoming of the Starlings at Washington, D. C.**—I have been much interested in the behavior of the Duck



Hawk mentioned by Alexander Wetmore, in his note "A Duck Hawk views the inaugural ceremonies." ('The Auk,' XLVI, No. 2, April, 1929, p. 235.) This particular Hawk is of interest in its relation to the Starlings coming in on their evening trips to roost.

One evening I took my stand on the south side of Pennsylvania Avenue opposite the Post Office Building, where it perches. As the sun became low and the first Starlings began filtering in from the city in little groups, the Duck Hawk high on the Post Office tower became an interested spectator. To him it was another great parade, but it evidently thrilled him and moved him as no 4th of March parade composed of humans ever will. He finally decided to sit quiet no longer and launched forth almost beside a big, compact, incoming flock of Starlings sweeping past him toward 7th Street. They too became aware of him, but they did not seem much disconcerted, appearing only to pull their ranks a little closer, and quicken their pace somewhat. To keep up with them he was forced to do rather active flying, and much turning, for the Starlings returned and swept up the Avenue again and back past the clock, the Duck Hawk in close attendance. At first he looked only like an innocent pigeon entangled with their movements, but it was another story. The Starlings knew their business, however, and kept on the wing in a very compact group as if almost inclined to defy this dangerous enemy. Nothing was done, and he finally tired of the game, returning to his high perch on the Post Office Building. As other birds swept by it seemed to me dangerously close to him, he would turn his head and watch them intently. Finally he launched out with another flock down the Avenue, and as this began to disintegrate with swift downward descents into the trees, he suddenly dropped, too, following a particular bird, but the strike was unsuccessful. The numbers dropping around him seemed to be somewhat disconcerting. Again he retired to the high stone cliffs of the Post Office Building. Although many other Starlings swept by, and some seemed to pause as if inclined to harry him, he merely craned out his neck quizzically and kept his perch.

—H. A. ALLARD, *U. S. Department of Agriculture, Washington, D. C.*

**A Spring Flight of Broad-winged Hawks.**—Hawks flights are of common occurrence during the fall, but unusual enough in the spring to be worthy of record. On April 21, 1929, my wife and I motored with Miss Margaret Livingston and Philip A. Livingston to Top Rock, situated on the Delaware River near Kintnersville, Pa. About noon we noticed several Buteos circling above us, which proved to be Broad-winged Hawks (*Buteo p. platypterus*). A moment later several more appeared, flying in the same direction,—southeast. Suddenly we became aware that the air was literally filled with Hawks as far as one could see to the northwest. All proved to be *platypterus*. They were flying rather low, but rapidly,—evidently bound for some particular objective. My notes state there were approximately seventy-five birds observed.

Mr. Julian K. Potter has called my attention to a flight of Broad-wings

reported in the July-August "Bird Lore" by Mrs. C. S. Hegeman, observed by her on April 20, flying north over Verona, N. J. Mrs. Hegeman states, "there were easily seventy-five hawks." Inasmuch as these flights were only one day apart and the estimates as to numbers agree, it would appear that it was the same flock, which turned about in an effort to escape a terrific rainstorm which was brewing in the direction from which they came.—JOHN A. GILLESPIE, 313 Sharp Ave., Glenolden, Pa.

**Winter Nesting of the Barn Owl.**—In 'The Auk,' January, 1926, Messrs. Julian K. Potter and John A. Gillespie record the autumnal nesting of the Barn Owl (*Tyto alba pratincola*) in the lower Delaware Valley, stating that "a search of available literature discloses only one other winter nesting record." They doubtless refer to Bendire's record of the birds that nested in the tower of the Smithsonian Institute. The following incident, however, may indicate that the Barn Owl nests in winter more frequently than has been supposed.

On October 10, 1926, while a gang of workmen were felling a grove near Calcium, Berks County, preparatory to the construction of a reservoir, one of the trees, containing a Barn Owl's nest, fell into a stream and two young Owls were washed from the cavity. One of these was swept away in the current while the other was rescued and brought to the Reading Museum. This one appeared to be about three weeks old.

Over two months later I heard that another family of Barn Owls occupied a tree some three-quarters of a mile from the former site. On the bitter cold night of January 12, 1927, I visited the tree in question and found that conditions made it impossible to climb to the nest without running a great risk of plunging into the icy waters of the Ontelaunee Creek. The constant calling of the young and the repeated visits of the old birds, however, left no doubt in my mind that there were indeed several young in the nest.

While these may have been the parent birds of the October tragedy, the latter tree is an old site, and has been continuously occupied either as a nest or roosting place for some years so that I am led to believe that it was an entirely different pair.—EARL L. POOLE, Reading Public Museum.

**Great Horned Owl vs. Barn Owl.**—The keeper of our local Zoo recently placed two Barn Owls (*Tyto alba pratincola*) in the same cage with two Great Horned Owls (*Bubo virginianus virginianus*). The following morning when he went to look after the birds he found the two Great Horned Owls but only the feet of the Barn Owls. No other creature could possibly have gained entrance to the cage so it is to be deduced that the large Owls ate the smaller ones.—LEO A. LUTTRINGER, Game Commission, Harrisburg, Pa.

**Red-headed Woodpeckers in Migratory Flight.**—On September 16, 1929, a flight of Red-headed Woodpeckers (*Melanerpes erythrocephalus*) was observed passing over the marshes at the head of Sandusky Bay,

Ohio. The birds were flying in little groups of two to five against a stiff south-west wind heading nearly south and at an elevation of sixty to eighty yards. Rather more than half of them were immature birds but the old and young were not segregated. I was hunting ducks at the time and counted forty-eight Woodpeckers passing in a little more than two hours. They apparently came from Ontario and probably crossed Lake Erie by way of Point Pelee and Bass Island which would make the flight over water only about nine miles. It was interesting to note that each successive group of birds followed exactly the same route over the marshes although those that had gone before were well out of sight.—JOHN B. SEMPLE, Sewickly, Pa.

**New Name for *Caprimulgus ridgwayi minor*.**—My colleague, Mr. J. L. Peters, has kindly called my attention to an oversight in naming a new Whippoorwill from the Dwight Collection of Guatemalan birds (Amer. Mus. Nov., no. 379, Oct. 17, 1929, p. 10). The subspecific name is, of course, preoccupied by *Caprimulgus minor* Forster, now applied to one of the Nighthawks. I consequently propose *Caprimulgus ridgwayi troglodytes*, NOM. NOV.—LUDLOW GRISCOM, Museum of Comparative Zoölogy, Cambridge, Mass.

**A Barbet New to Science from Kenya Colony.**<sup>1</sup>—Recently (Proc. N. Eng. Zool. Cl., xi, 6 August 1929, p. 36) I described a race of *Pogoniulus bilineatus (conciliator)* from the Uluguru Mountains, Tanganyika Territory. At the time, while studying the literature of this species I noted that van Someren (Nov. Zool. xxix, 1922, p. 59) listed birds from Mt. Elgon and Kakamegoes south to Molo as typical *jacksoni* and that he wrote that specimens from Nairobi, Kyambu, and Naivasha are smaller and darker than true *jacksoni*. Granvik (Journ. f. Ornith., 1923, Sonderheft, pp. 90-91), on the other hand, considered Nairobi birds as *jacksoni* and Mt. Elgon specimens as typical *bilineatus*, a procedure that supports van Someren's contention that Nairobi and Elgon birds are different, but that unfortunately confuses nomenclature. Since Mau is the type locality for *jacksoni* and since birds from Molo (near Mau) are the same as those from Mt. Elgon it is clear that the name *jacksoni* applies to these birds.

Since first noting the possibility of *jacksoni* being really an aggregate of two geographic races I have examined some twenty specimens from the following localities: Kakamega, Molo, Escarpment, Tumutumu, Kamiti, Ngong, Nairobi, and Ndarugu (near Fort Hall). I find that birds from west of the Rift Valley (true *jacksoni*) are clearly separable from those from the east of it.

As no name appears to be available for the eastern form, I propose to name it

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<sup>1</sup>Published by permission of the Secretary, Smithsonian Institution.

***Pogoniulus bilineatus alius* subsp. nov.**

*Type:* U. S. N. M. 214943, adult male, collected at Nairobi, Kenya Colony, 25 August 1909, by Edgar A. Mearns.

*Subspecific Characters:* Similar to *P. b. jacksoni* but somewhat smaller (wing 53–56 mm. in the males as against 56–59 mm. in males of *jacksoni*), and darker below, more grayish on the throat and breast, less clear greenish yellow on the abdomen.

*Measurements of Type:* Wing 54.5, tail 32.5, culmen 14 mm.

*Range:* Forested areas of the Kikuyu district, west to the Rift Valley.

*Remarks:* van Someren (*loc. cit.*) states that the western Kenian birds (*jacksoni*) have the rump darker, yellow-chrome, while eastern ones (*alius*) have this area canary yellow. I do not find this difference in the series examined.—HERBERT FRIEDMANN, *U. S. Nat. Museum, Washington, D. C.*

**Swiftlets and a Manobo.**—In February, 1928, in company with three other officers I explored a new route up Mt. Apo in Mindanao, an active volcano and the highest mountain in the Philippine Islands. We ascended from the western side taking as guides and porters a number of Manobos. These are interesting jungle men who file their teeth, pluck the eyebrows, carry huge ivory or wooden earrings in the perforated lobes of their ears, and wear elaborately beaded clothes. They are pure Pagans and rather unreliable temperamentally. That is one never knows when they will elect to try out the qualities of some favorite blade on an unjudiciously exposed neck. Therefore we were armed at all times. They are effeminate looking but marvelously stout in the jungles and mountains, and exceedingly active and quick.

The route led up a vast gorge and then ascended a vertical mountain wall so steep that it was accomplished by literally hauling oneself up hand over hand by means of vines, creepers and aerial roots. At an elevation of about 7200 feet we emerged on a wonderful meadow some 1500 yards long that held a lake at one end and that was circled by dripping moss enshrouded trees from which trailing festoons of gray green moss hung. The meadow was a veritable deer park.

Swiftlets (*Collocalia origenis*?) were darting aimlessly about in erratic but swift flight. They flew near to the edge of the forest for the most part and many swept close to the ground. One evening my attention was directed to an unusual motion behind a dead tree stump and I investigated the cause. I was astonished to find a Manobo crouched there with a small fan-like branch in his hand. As the Swiftlets flashed past he struck them down with incredibly quick, lightning like blows. Since he could not see them until they were directly opposite him and traveling at high rates of speed one can judge as to the reaction time of these wild men. We were on a long exploring trip where equipment had to be kept at a minimum so that I had no collecting or preserving material and was unfortunately unable to save any specimens of these birds. A few months ago I directed

the Marquis M. Hachisuka of Japan, a well known ornithologist, to this meadow where he collected for some time. His findings should prove of great interest when he has worked over the material.—LEON L. GARDNER, CAPT., U. S. A., *Camp John Hay, Mountain Province, P. I.*

**Canada Jay in Southern Minnesota.**—On October 8, 1929, the writer saw a pair of Canada Jays (*Perisoreus canadensis*) at the Hill Top Golf Links in north Minneapolis and on October 20, in company with nine other members of the Minnesota Bird Club, saw four of this species at the same time. On both occasions the birds were observed at close range and all of their characteristic markings noted. On the second date one of the birds came within three feet of one of the observers, several of which were acquainted with the bird in the northern part of the state. These two records establish, I believe, the southernmost point at which this species has been seen in Minnesota. On the second date the four birds were seen near Excelsior, about twenty miles west of Minneapolis. There were heavy growths of deciduous trees at both places where the birds were seen, but no coniferous forests were in evidence.—GUSTAV SWANSON, 3305 47 Avenue S., Minneapolis, Minnesota.

**The First Appearance and Breeding of the Starling in South Carolina.**—Doubtless Mr. Gabriel Cannon's report (Bird Lore, July-Aug., 1922, p. 212) of a pair of Starlings breeding at Spartanburgh, S. C. on May 7, 1922, is the first authentic breeding record for the state.

However, this species made its appearance in South Carolina long before the first breeding record just mentioned, Mr. Wayne's impression (Auk, Vol. XIII, pp. 271-272) that the three individuals of this species which he secured near Charleston in January, 1925, constituted the first record for the state south of Spartanburgh, to the contrary, notwithstanding. In late September, 1919, it was my good fortune to secure one specimen from a small flock of Starlings seen on the outskirts of Greenwood, S. C., which lies some sixty miles almost due south of Spartanburgh. We believe this flock to be one of the first appearances of the species in the state.

It may be of interest to note that the first breeding record of the Starling for Greenwood was made on April 22, 1925, when Mr. Wm. Hahn, Jr. found a nest containing four fresh eggs. Since Mr. Hahn is an active field ornithologist of long experience, we may surmise that the breeding of the Starling has lagged far behind the southern extension of its range.—EMMET R. BLAKE, Greenwood, S. C.

**A New Race of *Phibalura flavirostris* from Bolivia.**—In 'The Auk' for January, 1926 (p. 99), I recorded the existence in the American Museum of a pair of *Phibalura flavirostris* taken near Aplobamba, Bolivia, by Mr. R. S. Williams of the New York Botanic Garden. As the species had previously been known only from southeastern Brazil it would not have been surprising to find that these Bolivian birds were separable, but lacking



suitable material of true *flavirostris* it was not possible to determine whether the variations which they presented were individual or racial. Now, thanks to the admirable collections made in southeastern Brazil by E. Kaempfer, for Mrs. E. M. B. Naumburg, we are in possession of a beautifully prepared series of typical *flavirostris* which shows that the Bolivian bird may be distinguished by well-marked characters. I propose therefore, to call it

***Phibalura flavirostris boliviana*, new subspecies.**

*Subspecific Characters:* Similar to *Phibalura flavirostris flavirostris* Vieillot, but male with yellow confined to the chin and anterior half of the throat, the posterior half creamy white unmarked; white postauricular area wider and unmarked; abdominal region unmarked, sides and flanks with but few black streaks; female with the throat as in the male and not spotted as in the female of true *flavirostris*; crown and sides of the head grayer; abdominal region striped as in the male, not barred as in the female of *flavirostris*, the under tail-coverts without marks; tail, in both sexes longer, rectrices narrower apically, ♂, wing, 101; tail, 131; ♀, wing, 100; tail, 110; true *flavirostris*, 5 ♂, wing, 99-105; tail, 108-112 mm.; 5 ♀, wing, 97-99; tail, 97-102 mm.

*Type:* No. 78,958, Amer. Mus. Nat. Hist.; ♂ ad.; Aug. 20, 1902, near Atten, Aplobamba, Bolivia; R. S. Williams.

*Specimens examined:* *Phibalura flavirostris boliviana*.—Bolivia: near Atten, Aplobamba, 1 ♂, 1 ♀.

*Phibalura flavirostris flavirostris*.—Brazil: Serra do Lucindo, Sta. Catharina, 2500 ft.; 6 ♂, 5 ♀; São Francisco do Paula, Rio Grande do Sul, 3000 ft., 4 ♂, 3 ♀; Mt. Itatiaya, 2700 ft., 2 ♂, 1 ♀; Castro, Paraná, 1 ♂; Serra do Caparó, Minas Geraes, 3000 ft., 3 ♂, 1 ♀.

The marked differences shown by the female of *boliviana*, when compared with a specimen of this sex from southeastern Brazil, raise a question of the correctness of the sexing of the Bolivian bird. It has, however, the green in the wing and tail and the comparatively gray head of this sex and appears to be fully adult but it is, of course, possible that it may be a young male. The only specimen in our series of true *flavirostris* showing indications of immaturity is a male having the greater wing-coverts edged with green and whitish tips on all but the central rectrices.—FRANK M. CHAPMAN, *American Museum of Nat. Hist., New York City, N. Y.*

**Late Nesting of the Cedar Waxwing in North Carolina.**—On August 12, 1929, Mr. Charles G. Vardell and I were walking along the edge of Cone's Lake at Blowing Rock, Watauga County, in western North Carolina, when we noticed a Cedar Waxwing (*Bombycilla cedrorum*) fly into a small maple with nesting material. Surprised at seeing this at such a late date we investigated and found a nest, almost finished, about twenty feet from the ground in the highest crotch of the maple. The elevation at this place is almost exactly 4000 feet. On August 26 I again

visited the nest with Mr. Alexander Sprunt, Jr., and we found that it contained four eggs which appeared to be in an advanced stage of incubation. On the 28th the eggs were still unhatched. The bird stuck closely to the nest at all times. A rock tossed into the lower branches of the tree would not move her. Only when we began to shake the tree in climbing did she leave, and then only to fly to a nearby tree, from which she returned each time before we left the spot. On the morning of the 30th there were three naked young, just hatched, and one egg. This time the bird let me climb within a few feet of the nest before she left it. The morning on which the birds hatched was quite cold and the villagers reported that there was some frost. Late on the afternoon of the 31st the fourth egg was still unhatched. The next day we removed the egg and found it to be infertile. The young birds were still doing well. The end of my vacation having come, I was forced to leave without being able further to follow the fortunes of this interesting and belated brood.

During one of the visits to this nest, Mr. Sprunt and I found a fledgling Goldfinch in the road on the other side of the lake. The bird had evidently just left the nest. Some of the secondaries and tail feathers had not fully emerged from their sheaths, and the bird could hardly fly a yard. Here close at hand was another example of rather late nesting.—JAMES J. MURRAY, *Lexington, Virginia*.

**Efficiency of Propagation of Barn Swallows.**—During bird banding activities on Conanicut Island, R. I., numerous trips were made to 45 barns and 35 sheds in fifty-two locations throughout this nine-mile island in Narragansett Bay. Bird bands were attached to 84 Barn Swallows, of which 26 were adults. The adult birds were nearly all caught with a large hand net while flying within the barn. One adult caught in one barn, which contained but one nest, was caught again about three hours later in the evening in another barn one mile away, showing that Barn Swallows do not remain in the vicinity of one barn during the nesting season. The bands applied to these Barn Swallows numbered C5605 to C5676 (save 7 to 9 and 76 to 81) and C7280 to 99. During the previous year bands were attached to 45 fledgling Barn Swallows in these same barns, but no later returns were obtained by catching these birds this following season.

Nearly all nests were numbered by chalk on the rafters. Sixteen nests which were marked had been used before our arrival. The nests were numbered to determine their future age, the number of times they are used, their productivity and if the birds return to the same nests. This work and the determination of the efficiency of the propagation of Barn Swallows was done by Mr. Merrill Wood.

The work showed that the propagation efficiency of Barn Swallows was about 50 per cent, as only one-half the eggs laid were successful. The number of eggs laid in a nest varied from one to 5, usually 4. The last set of eggs laid was complete on July 29, 1929; this set contained 3 eggs, but only one hatched.

Nests with eggs .....	27
Eggs laid .....	92
Eggs hatched .....	60
Eggs failed to hatch .....	32
Nestlings died .....	10
Nestlings banded and lived .....	50
Nest used twice in same season .....	1
Nests that were 100 per cent successful .....	8

Red-winged Blackbirds were previously studied in relation to their propagation efficiency by Merrill Wood and reported by him in 'Bird Lore,' July-August, 1928, page 262. Among twelve nests with thirty-nine eggs, only twenty-one new Red-winged Blackbirds were produced and only one nest raised its full quota of young birds. These twelve nests should have produced forty-eight birds instead of only twenty-one. The Barn Swallow nests should have produced 108 birds instead of the 50 survivors.—HAROLD B. WOOD, M.D., Harrisburg, Pa.

**Cerulean Warbler in Holderness, New Hampshire.**—On June 5 1929, I heard an unfamiliar song and upon entering the woods located the singer in the tops of the tallest deciduous trees. The bird flitted restlessly in and out of the dense foliage maintaining a height of from thirty to sixty feet. It sang incessantly—without variation—"See-See-Seep" with an ascendant note on the last syllable. Occasionally it remained motionless on a bare branch while singing.

After four hours of constant observation, under difficult light conditions, I finally identified it as a male Cerulean Warbler (*Dendroica cerulea*). The bird remained in the vicinity and was subsequently collected by Mr. Harding and presented to the Boston Society of Natural History.—KATHARINE C. HARDING, 121 University Road, Brookline, Mass.

**The Blue-winged Warbler (*Vermivora pinus*) and the Sycamore Warbler (*Dendroica dominica albilora*) in the North Carolina Mountains.**—In view of the scarcity of records for these two Warblers from the mountains of western North Carolina, the writer considers that observations made the summers of 1928-29 are worthy of interest.

*Dendroica d. albilora* was observed at Blowing Rock, Watauga County, at an elevation of 4000 ft., on two occasions during August 1928; one being seen on the 16th, and one on the 20th of the month. There was no question whatever as to the identity; they were very tame, coming to within ten feet while feeding in chestnut trees, particularly among the terminal twigs of drooping limbs. The superciliary stripe was entirely white, a feature which did not necessitate the use of binoculars, although 6 and 8x glasses were brought into play when the birds moved higher in the trees.

Watching for them during this past summer, the writer found several more. Birds of this sub-species were also seen and readily identified, in the same locality, by Herbert R. Sass, of Charleston, S. C., and James

J. Murray of Lexington, Va. Birds were seen on August 25, 26, 28, and Sept. 1. While in Montreat, Buncombe Co., during Sept. 2-12, the writer saw three more Sycamore Warblers, one on the 4th, and two on the 10th. Montreat is about one thousand feet lower than Blowing Rock. All of these birds afforded the same easy study as the Blowing Rock specimens.

According to Mr. H. H. Brimley, in his 'Birds of North Carolina' (Pearson & Brimley), the Sycamore has been recorded but three times, though he states that Mr. Arthur T. Wayne referred specimens to this sub-species which he saw about Morganton and Lenoir, in Burke and Caldwell Counties at much lower elevations. The writer's observations indicate that *D. d. albilora* can be considered as a fairly common summer resident above 3000 ft.

The writer can fully corroborate Mr. Brimley's statement regarding the Blue-winged Warbler (*Vermivora pinus*), in North Carolina. He says, on page 278, 'Birds of North Carolina' that, "we have very few records of this species in the State, and outside of Raleigh it has been recorded only from Buncombe County where Cairns called it an uncommon summer visitor . . . Pearson found two males at Montreat, Buncombe County, in July, 1903."

During the fifteen years that the writer has studied the summer bird life of the Blowing Rock, and Montreat sections of the mountains, the Blue-winged Warbler has been seen but once, that one a fine female at Montreat on Sept. 10, 1929. The bird was seen on a brilliantly clear morning amid a "wave" of other migrants, and came to within a few yards of us as we stood on the edge of an old trail, and watched it in a dead laurel bush. The black line through the eye, the white wing bars and touch of yellow on the forehead were distinctly visible without the aid of glasses. The abundance of Warblers in this section at this time of year is indicated by the fact that the wave of which this member was a unit, contained eleven species. The elevation at the spot was 3200 ft.—ALEXANDER SPRUNT, Jr., 92 South Battery, Charleston, S. C.

**The Distribution Westward of *Seiurus noveboracensis noveboracensis*.**—The range of the Northern Water-Thrush as given by Ridgway is:—"Eastern North America . . . breeding southward to . . . southern Michigan(?), northeastern Illinois(?), etc."

The status of this species in the Mississippi Valley appears to be rather undecided. Dr. Roberts does not record *S. n. noveboracensis* in his 'Review of the Ornithology of Minnesota,' 1919. Anderson (Birds of Iowa, 1907, p. 358) says "The notes upon the Grinnell Water-Thrush and the eastern variety (*S. noveboracensis*) are somewhat confused in Iowa records as most observers fail to differentiate between them . . . All of the Iowa specimens which I have examined appeared to belong to *notabilis*." Widmann (A Preliminary Catalog of the Birds of Missouri, 1907, p. 234) says "it is generally accepted that the Water Thrushes of Missouri belongs

to the western form, *notabilis*." Cory (The Birds of Illinois and Wisconsin, 1909, p. 666) says that "The Mississippi Valley region seems to be the dividing line between the eastern and western forms of this species, and as would be expected, a large number of intermediates occur in Illinois and Wisconsin." W. W. Cooke (Bird Migration in the Mississippi Valley, 1888, p. 256) speaks of this species as "A bird of eastern North America; probably does not occur west of the Mississippi River."

The following typical specimens of *Seiurus n. noveboracensis* from the debatable area (where *notabilis* is, of course, the common form), are contained in the Dwight Collection and in the general collection of the American Museum of Natural History. All show a yellowish tinge to their underparts and the measurements of the bills fall well within the range given for this species by Ridgway:—*noveboracensis*, male, 11.9–14 (12.7), female, 10.9–14.7 (12.7); *notabilis*, male, 12.4–16 (13.6), female, 12.2–14.2 (13.2).

#### Dwight Collection.

*Iowa*.—*Hillsboro*. No. 12787, male, May 29, 1897. W. G. Savage, collector. Exposed culmen, 11 mm., bill from nostril, 9.1 mm.

*Keokuk*. No. 26465, female, May 12, 1904. C. K. Worthen Collection. Exposed culmen, 11 mm., bill from nostril, 9.7 mm.

*Illinois*.—*Warsaw*. No. 26461, male, May 6, 1905. C. K. Worthen Collection. Exposed culmen, 12.8 mm., bill from nostril, 11 mm.

*Warsaw*. No. 19162, male, May 9, 1899. F. P. Drowne Collection. Exposed culmen, 12 mm., bill from nostril, 10.2 mm.

*Warsaw*. No. 26464, male, May 17, 1897. C. K. Worthen Collection. Exposed culmen, 11.2 mm., bill from nostril, 9.4 mm.

*Warsaw*. No. 26462, female, May 6, 1905. C. K. Worthen Collection. Exposed culmen, 11.2 mm., bill from nostril, 10.2 mm.

*Warsaw*. No. 19163, female, May 7, 1894. F. P. Drowne Collection. Exposed culmen, 11.8 mm., bill from nostril, 8.9 mm.

*Wisconsin*.—*Koshkonong*. No. 26466, no sex, May 15, 1898. C. K. Worthen Collection. Exposed culmen, 11.8 mm., bill from nostril, 9.9 mm.

#### General Collection.

*Minnesota*.—*Ft. Snelling*. No. 53525, male, May 5, 1898. Dr. E. A. Mearns, collector. Exposed culmen, 11 mm., bill from nostril, 9.7 mm. Identification confirmed by H. C. Oberholser.

*Missouri*.—*Spring Valley, Shannon County*. No. 230001, male, May 9, 1907. Lewis B. Woodruff Collection. Exposed culmen, 11.5 mm., bill from nostril, 10.5 mm. Identification confirmed by H. C. Oberholser.

*Spring Valley, Shannon County*. No. 230002, male May 12, 1907. Lewis B. Woodruff Collection. Exposed culmen, 11.5 mm., bill from nostril, 10.2 mm. Identification confirmed by H. C. Oberholser.



*Grandin, Carter County.* No. 230000, male, May 21, 1907. Lewis B. Woodruff Collection. Exposed culmen, 11.8 mm., bill from nostril, 9.9 mm. Identification confirmed by H. C. Oberholser.—PHILIP A. DU MONT, *American Museum of Natural History.*

**Bill Deformity in a Catbird.**—The note "Bill Deformity in a Blue Jay" contributed by Charles E. Johnson, in 'The Auk,' XLVI, 1929, 241-242, reminds me of a similar deformity which I observed in a Catbird in my garden at Lyon Park, Clarendon, Virginia, near Washington, D. C.

The bill of this unfortunate bird was seen to be deformed in such a way that the upper mandible did not close upon the lower in a normal manner, but appeared bent upward dorsally. The bird was not particularly wild and good views of its head were obtainable at the time. The bend of the upper mandible appeared to occur somewhat past the middle toward the nares so that the greater portion of this mandible from the bend to the tip formed an angle of about 45° with the plane of the lower mandible. Naturally much of the inside of the mouth and the tongue as well were exposed. I did not see the bird feed, and it soon passed beyond my garden, but so far as could be judged by its behavior it appeared well-nourished and lively enough.—H. A. ALLARD, *U. S. Department of Agriculture, Washington, D. C.*

**Blue-Gray Gnatcatcher at Throop, Pa.**—On April 13, 1929, on the grounds formerly occupied by the Scranton Country Club, the Blue-gray Gnatcatcher (*Polioptila caerulea caerulea*) was seen by Adam Lord of Throop, Pa. Upon notification of this fact, my husband and I, with Mr. Lord found the bird in the same vicinity on the following day, where we verified the identification, observing the dainty creature for more than an hour at close range with field glasses, noting his actions, field marks and cry, all of which he gave for our unmistakable identification. Later in the day, we were able to reach several other bird students adding two more witnesses to what we believe to be the first record of this bird in Lackawanna County. Miss Emma C. Kirk and Mr. J. M. Cairns also saw the bird in the same locality.—MRS. FRANCIS H. COFFIN, 1528 *Jefferson Avenue, Scranton, Pa.*

**Rare Connecticut Birds in Sanctuary Collection.**—Since the establishment of the Birdcraft Sanctuary at Fairfield, Connecticut in 1914, several birds rare to the avifauna of the state have been received and prepared for the Sanctuary's Museum by the Custodian, Mr. Frank Novack. The specimens of Yellow-crowned Night Heron and Sycamore Warbler constituted the first records of these species within the state and the Wilson's Petrel, Gannet, Gadwall, Purple Gallinule, Black Gyr Falcon, Evening Grosbeak, and Yellow-throated Warbler are nearly as rare.

Mr. Novack recently called my attention to the fact that the Museum had specimens of the three Eiders that occur along the north Atlantic seaboard,—Northern, American and King,—all secured within Fairfield

County, Connecticut. The Northern Eider (*Somateria mollissima borealis*) is a female, shot at Stratford Point during November, 1922. The hunter, who had mistaken the bird for a Scoter, was advised by the State Game Commissioner to turn it over for the Sanctuary's collection. A comparison of both the shape and measurements of the frontal process of this bird with skins in the American Museum of Natural History shows conclusively that it is *S. m. borealis*. It is the first record of this species for Connecticut.

Another rarity in the collection is a fine specimen of the Labrador Horned Owl (*Bubo virginianus heterocnemis*). It is a large female, which was caught in a steel trap at the Litchfield Game Preserve, Litchfield, Connecticut, during January, 1928, and subsequently was sent to Mr. Novack by the Custodian, Henry A. Bowden. The measurements of this bird in millimeters are:—wing, 386; tail, 243; exposed culmen, 43; culmen without cere, 29. Besides being much darker than a typical *virginianus*, it has large blotches of black on the upper breast, the top of the head is dark with only a few grayish-brown streaks and the facial disk is quite gray. The only brown in the plumage is on the nape and back; the wings and tail are gray. The only other record of this subspecies in Connecticut is of a specimen taken at Black Hall, November, 1917 (Bishop, Auk, 1921, p. 586).—PHILIP A. DU MONT, *American Museum of Natural History*.

**Notes from Washington, D. C.**—*Sterna forsteri*. FORSTER'S TERN.—One was seen on the mud-flats off Hains Point, D. C., August 22, 1929. *Sayornis phoebe*. PHOEBE.—One was noted at Dyke, Va., January 3, 1929.

*Dumetella carolinensis*. CATBIRD.—One was seen at Wellington Villa, Va., January 3, 1929.—WILLIAM HOWARD BALL, 1861 Ingleside Terrace, N. W., Washington, D. C.

**Notes from Eastern Maryland.**—*Sterna forsteri*. FORSTER'S TERN.—One was seen at Chesapeake Beach, October 21, 1928.

*Aix sponsa*. WOOD DUCK.—A female with seven young was seen at Cedar Point, St. Mary's County, August 19, 1928.

*Hydranassa tricolor ruficollis*. LOUISIANA HERON.—One was seen at Scotland Beach, St. Mary's County, August 18, 1928.

*Pisobia bairdi*. BAIRD'S SANDPIPER.—One was watched for twenty minutes in the yard of the hotel at Scotland Beach, August 19, 1928. It was busy probing in the pools of rain water which were quite numerous, sometimes coming within ten feet of me. The distinctive markings of this species which were noted follow: the rather slender, straight black bill, black legs, light buffy washing of the breast and flanks, the scaly appearance of the back, and in flight the presence of dark upper tail coverts and the absence of a white line on the upper surface of the wing. Others in the party were H. G. Deignan, Phoebe M. Knappen, and Mrs. T. M. Knappen.

*Ereunetes mauri*. WESTERN SANDPIPER.—One was collected from a group of three at Chesapeake Beach, July 20, 1929.

*Bartramia longicauda*. BARTRAMIAN SANDPIPER.—A flock of seven was seen flying over Plum Point, July 16, 1928.

*Hedymeles l. ludovicianus*. ROSE-BREASTED GROSBEAK.—I saw a male at Plum Point, July 25, 1928. It was not found again. M. T. Donoho reports that a pair bred in 1925 at the home of Frederick J. Schlick, near the mouth of Governor's Run, Calvert County. The brood was successfully raised.

*Guiraca c. caerulea*. BLUE GROSBEAK.—A pair was noted near Cedar Point and a male seen singing at Morganza, Charles County, August 19, 1928.

*Dendroica striata*. BLACK-POLL WARBLER.—A male was seen singing near Plum Point, July 6, 1928.—WILLIAM HOWARD BALL, 1861 Ingleside Terrace, N. W., Washington, D. C.

**Further Water Bird Notes from the Florida East Coast.**—I have previously published (see Auk, XLIII, 378-9) notes referring to fourteen species of water birds which are rare or very uncommon in the Atlantic section of middle Florida. In the past three years, I have augmented this material as follows:

1. *Puffinus lherminieri*. AUDUBON'S SHEARWATER.—One living and one dead, found on the ocean beach south of Daytona Beach, Aug. 3, 1928, and one dead bird picked up in the same region on Aug. 5, and Aug. 13. On Aug. 23, 1929, another dead Shearwater of this species was found on the beach.

2. *Fregata aquila*. MAN-O'-WAR BIRD.—During the hurricane that struck the lower east coast in September, 1926, a flock of eleven Man-o'-war birds was over Daytona Beach (Sept. 18), and nine were seen in the next two days. On Sept. 16, 1928, during the Palm Beach hurricane, a single Man-o'-war bird was seen at Daytona Beach. I have never seen this species in this latitude except on the occasion of a heavy blow to the south.

3. *Lophodytes cucullatus*. HOODED MERGANSER.—The shallow waters in the salt marshes near Ponce de Leon (Mosquito) Inlet seem to be the only place in this vicinity where these Mergansers occur. I have noted them there several times since 1925:—Mar. 13 and Dec. 12, 1926; Dec. 24, 1927; Jan. 29, and Feb. 19, 1928.

4. *Rallus virginianus*. VIRGINIA RAIL.—Second record—one seen in the salt marsh opposite New Smyrna, Feb. 19, 1928.

5. *Creciscus jamaicensis*. LITTLE BLACK RAIL.—A dead bird of this species was found in the street in front of my house in Daytona Beach, Apr. 7, 1929.

6. *Micropalama himantopus*. STILT SANDPIPER.—Second record—in the shallow water of a mud-flat near Port Orange, Apr. 29, 1928, I saw two Stilt Sandpipers, and took one.

7. *Pisobia fuscicollis*. WHITE-RUMPED SANDPIPER.—I saw one White-

rumped Sandpiper on the beach south of Daytona Beach, May 24, 1929, and took a specimen there, June 20, 1929. The latter bird had lost the lower half of the right tarsus, which may account for this late date in Florida.

8. *Tringa solitaria*. SOLITARY SANDPIPER.—This species should not be rare here, but the only records I have added are in 1928, when on inland waters near the coast I saw the bird on Mar. 31, Apr. 1, 4 and 15.

9. *Numenius hudsonicus*. HUDSONIAN CURLEW.—This shore-bird seems to be on the increase. On the local beach in 1928, I saw four on Aug. 4, two on Aug. 5, and in 1929, I saw one at the inlet on May 8, four on May 11, and two on the beach, Aug. 26.

10. *Lobipes lobatus*. NORTHERN PHALAROPE.—On Aug. 23, 1929, I found a dead Northern Phalarope on the ocean beach south of Daytona Beach. I understand that this constitutes the second record for Florida. (See note by Mr. Arthur H. Howell in this issue of 'The Auk'.)

11. *Ereunetes mauri*. WESTERN SANDPIPER.—This Sandpiper doubtless occurs here rather commonly. Observation with binoculars would indicate such occurrence, but I find it very difficult to identify this form in the field. On May 10, 1926, I collected a specimen which later I found to be *E. mauri*. Since that time, I have collected the form several times.

12. *Aegialitis meloda*. PIPING PLOVER. This is a fairly common winter shore-bird, but I wish to call attention to a behavior that I have pointed out to several ornithologists and have not found mentioned in any of the literature. This species has a very characteristic habit of reaching forward either left or right foot and stirring or patting the sand, as the bird comes to a stop after a short run. Occasionally the Plover will pick up food after the operation, but just as often it will stand in utter unconcern, the little foot extended and beating the sand with very rapid strokes of short amplitude. The habit does not seem to function in every individual of the species, but so characteristic is it of the form that were nothing of color observable, the "foot patting" would serve to identify the bird.

I have previously recorded the occurrence of other rarities of this region:—Noddy and Sooty Tern (Auk, XLIV, 92), Mountain Plover (Auk, XLV, 208), Great White Heron and Roseate Spoonbill (Auk, XLVI, 105).—R. J. LONGSTREET, Daytona Beach, Florida.

**Five Additions to the Birds of Florida.**—Since publication of my manuscript on the birds of Florida is likely to be delayed for a considerable period, it seems advisable to place on record the data with reference to four species not previously recorded from the state.

Three of these records are based on specimens in the Florida State Museum, at Gainesville, the numbers cited being the catalog numbers in that institution.

*Stercorarius pomarinus*. POMARINE JAEGER.—A specimen (No. 14228) was taken by Mr. W. R. Collins in 1914, two miles west of Palm Beach.

*Larus leucopterus*. ICELAND GULL.—A specimen (No. 30597) was taken February 9, 1927, at Crystal River, by Mr. O. F. Swed.

*Puffinus gravis*. GREATER SHEARWATER.—Although there are several sight records of this bird,<sup>1</sup> its occurrence in the State is definitely established by the capture of a specimen (No. 14230) by Theodore Knight in December, 1913, 10 miles north of West Palm Beach.

*Lobipes lobatus*. NORTHERN PHALAROPE.—In a little pool in a pasture near Plant City, May 14, 1929, one of these birds was discovered by Mr. W. Howard Ball, and was collected by the writer. The specimen is preserved in the Biological Survey collection.

*Plectrophenax nivalis nivalis*. SNOW BUNTING.—The late Charles B. Cory advised me (in letter dated February 3, 1921) that he took a specimen of this bird at Chester Shoals about 1897, in late January or February. Shortly thereafter this specimen was destroyed in the fire which consumed Mr. Cory's museum at Palm Beach.—ARTHUR H. HOWELL, *U. S. Biological Survey, Washington, D. C.*

**Notes from Illinois.**—Among some Illinois bird skins kindly identified for me by Dr. Harry C. Oberholser, the following are of interest. Unless otherwise stated they were collected by me.

1. *Otocoris alpestris alpestris*. HORNED LARK.—Male, January 22, 1912, Lewistown, Fulton County, W. S. Strode.

2. *Cyanocitta cristata cristata* [= *florincola*]. FLORIDA BLUE JAY.—Male, June 30, 1927; male, November 28, 1925; female, December 28, 1924; all from Fieldon, Jersey County.

3. *Agelaius phoeniceus arctolegus*. ARCTIC REDWING.—Male, February 6, 1927, Waukegan, Lake County; male, March 6, 1927, Waukegan; two males, March 6, 1927, Beach, Lake County; male, April 14, 1928, Waukegan male, April 22, 1928, Beach; male, April 25, 1925, Glencoe, Cook County; two males, April 28, 1928, Beach; male, May 10, 1926, Winnetka, Cook County; female, December 10, 1927, Beach.

There are but three previously reported specimens of this form from the state.

4. *Acanthis linaria rostrata*. GREATER REDPOLL.—Male, taken December 7, 1919, at Beach by Mr. Colin C. Sanborn. This is apparently the third record for the state.

5. *Junco oreganus shufeldti*. SHUFELDT'S JUNCO.—Dr. Oberholser identifies as *hyemalis* the bird reported by Sanborn under the name of *connectens* (Auk, XX XIX, 372).

6. *Junco montanus*. MONTANA JUNCO.—I secured two females at Beach, April 15, and May 1, 1927, respectively. These form the third and fourth records for the state.

7. *Hylocichla guttata sequoiensis*. SIERRA HERMIT THRUSH.—Male, April 9, 1927, Glencoe, Cook County; male, April 14, 1928, Beach, Lake

<sup>1</sup> See Howe, *Contr. to North Amer. Ornith.*, vol. 1, p. 44, 1903.



County; female, April 15, 1927, Beach; male, April 17, 1921, Highland Park, Lake County, H. K. Coale; two females, April 28, 1928, Beach.

These six specimens constitute an addition to the avifauna of Illinois and greatly extend the range of this form eastward.

8. *Turdus migratorius achrusterus*. SOUTHERN ROBIN.—Two males, adult and juvenal, July 4, 1927, near Fieldon, Jersey County.—PIERCE BRODKORB, Evanston, Illinois.

**Notes from Brownsville, Texas.**—During a visit to Brownsville, Texas, during July, 1929, I noted several birds of interest. On a small pond on a salt prairie a few miles west of Pt. Isabel, I saw two Ruddy Ducks (*Erismatura jamaicensis rubida*), on July 16. One a male in full nuptial plumage the other a female or immature bird.

I also found the Black Tern (*Chlidonias surinamensis nigra*) quite common from July 14 to 18. They were probably early transients as I saw none in nuptial plumage. Mr. Ludlow Griscom, to whom I submitted my notes thought these worth recording.—C. BROOKE WORTH, St. Davids, Pa.

**Four New Birds for Montana.**—There appear to be no published records of the occurrence in Montana of the four species of birds given below. These records are based upon careful sight identification by the writer, and are offered on their merits. It is well to remember that in a state like Montana, where comparatively little ornithological work has been done, "new" species may frequently merely be birds that regularly occur locally.

*Aegialitis semipalmata*. SEMIPALMATED PLOVER.—A single bird seen feeding at Dry Lake, near Fortine, Lincoln County, September 2, 1928. Several Killdeer were near, and the much smaller size of the Semipalmated Plover, its single black chest band, together with the continued and close observation afforded by its tameness, made identification certain.

*Cypseloides niger borealis*. BLACK SWIFT.—Several seen over the town of Libby, in extreme northwestern Montana, on the evenings of July 21 and 22, 1924. A few noted August 2, 1924, along Libby Creek about two miles above the Kootenai River. A few of the birds seen over town on the first date given descended low, and were observed by my father, my brother, and myself from a distance of not more than sixty feet. Their black underparts made positive identification easy. It is quite probable that the species breeds among the high mountains around Libby, where the White-throated Swift occurs.

On June 30, 1929, my brother and I observed a single Black Swift along the Garden Wall, in Glacier National Park.

*Selasphorus alleni*. ALLEN'S HUMMINGBIRD.—On August 2, 1924, along Libby Creek about two miles southeast of Libby, I observed two Hummingbirds, one of which I knew at once to be neither a Rufous nor a Calliope Hummingbird, the only species regularly occurring in that

locality. Watching them through binoculars for several minutes, at a short distance, I identified one as a male Allen's Hummingbird. Considering their actions, the other was probably a female of that species, but under the circumstances it could not be differentiated from a female Rufous Hummingbird.

*Dendroica fusca*. BLACKBURNIAN WARBLER.—An adult male of this species was observed in some small pines near my residence at the edge of Libby, August 21, 1924. It was watched, with binoculars, at times from as close as twenty feet. Within a minute after observing it I verified my identification by referring to descriptions and illustrations of the species in several standard references.—WINTON WEYDEMEYER, *Fortine, Montana*.

**A Record Banding Return.**—What is, as far as the writer can ascertain, an absolutely unique banding return was made near Charleston, S. C., during August of this past summer. During June and July, Mr. E. Milby Burton and the writer banded several hundred birds in Charleston County, the majority of which were Louisiana Herons (*Hydranassa tricolor ruficollis*) and Little Blue Herons (*Florida caerulea*). On June 13, 1929, a rookery was visited on Youghal Plantation, and many of the young Herons banded. On August 9, 1929, five of the bands put on birds in this rookery were taken from the stomach of an alligator which was shot some mile and a half from the rookery by Mr. E. B. Chamberlain of Charleston.

The records show that these bands, which bore the Biological Survey numbers of 502, 181-004-090, were attached to the legs of Little Blue Herons, while numbers 502, 134-167, had been placed on Louisiana Herons. The alligator was about eight feet long, and was taken in a salt creek of the vast marshes which extend from the mainland out toward the chain of barrier islands which fringe the ocean. That the saurian was killed more than a mile from the rookery seems to point to the fact that the Herons were taken as they flew out to the marsh to feed. Alligators frequented the waters of the rookery itself, and no doubt accounted for many young which fell from nests, but it is interesting to note that Herons form a part of the food supply of these reptiles to such an extent.

It has long been thought locally that Herons are sometimes taken by alligators, but the above seems to indicate that this one made it somewhat of a practice. It doubtless laid in wait along the creek, and snapped up the birds as they fed along the water. The bands were but slightly corroded, the numbers being plainly legible. Of some American Egrets (*Casmerodius egretta*) banded this past spring, two have been reported from Georgia as having been taken there, but that returns would come from an alligator's stomach was beyond the wildest dream of either Mr. Burton or the writer. It is simply another proof of how valuable and fascinating the practice of bird-banding can be.—ALEXANDER SPRUNT, JR., 92 So. Battery, Charleston, S. C.

**Notes on the Feeding Reactions of Some Spring Birds during a Late Snow Storm.**—The New England snow storm beginning on April 12, 1929, and continuing spasmodically for two days with low temperatures, about which Wendell P. Smith has a communication in the October, 1929, number of 'The Auk' also struck southern New Hampshire with results as interesting, but differing somewhat, and not quite so drastic. The spring birds mentioned in Mr. Smith's note were also present here with two exceptions:—the Horned Lark and Meadowlark; with such additional species as: Belted Kingfisher, Savannah and Field Sparrow, Tree Swallow and Yellow Palm Warbler. Besides these and many winter residents there were the Phoebe, Song Sparrow, Hermit Thrush, Robin and Bluebird in greater numbers and which came to the house in quantities, visiting the feeding trays and any places that afforded food. Their feeding reactions were particularly interesting. Correspondingly with Mr. Smith's note, I saw not only Phoebes, but Hermit Thrushes, Robins and Bluebirds catching flying insects attracted to manure heaps outside of barns as well as under the eaves of houses and outhouses. On and around one small pile I counted twenty-six individuals consisting of six species, mostly Thrushes. The Hermit Thrush is a very common fall migrant, usually not so common in the spring, but never had I seen so many as during this storm and immediately following it. The Slate-colored Junco, Tree and Song Sparrows were commonly caught dashing in a mad frenzy against windowpanes inside barns where they had been attracted by the scattered hayseed.

Back of the house near the brook where drainage from springs kept the wet ground free of snow, Song Sparrows, Hermit Thrushes, Robins and Bluebirds made efforts to find earthworms and forms of insect food. Seeing that they were unsuccessful and that they repeatedly visited the feeding trays where the food placed out for the winter birds was apparently not to their liking, I resorted to digging earthworms in the garden and was rewarded by having six species cluster about the spot where I had spaded. Taking a hand-full of worms and depositing them on a bee hive and on stones around the wet springy ground, the birds hunting for food there ate them eagerly. I was a little surprised to find the Song Sparrow such a worm devotee! One male Robin was markedly demonstrative in showing his objection to having the other birds eat these choice servings, dashing at every individual daring to come too close. Later I saw him still there, standing on a heap of crawling worms so that no other bird could feed, mouth agape, and crop bulging. All the birds made gluttons of themselves after the day's famine. The Hermits became so tame in the offering of worms as to take them from my fingers. Most of the birds at some time appeared to be in song, but all were suffering from the cold.

Several of the earlier migrants had commenced nesting and one interesting instance has to do with the Phoebes. Before the last cold snap they had begun carrying nesting material under the bridge, working off

and on even during the days of the storm,—and then disappeared for more than a week, finally coming back to complete the nest.—LEWIS O. SHELLEY, *East Westmoreland, N. H.*

**An Ancient Bird Skin.**—When I was in Salt Lake City in 1895, some men came from southern Utah bringing a large collection of cliff dweller relics. Among these was a skin of the Mountain Bluebird. The bird had been skinned through an incision along the line of the breast bone, as we do it now, but the bones of the upper legs and wings and the skull had been removed. The skin was pliable and free from grease and was perfectly preserved in the dry dust where it had lain hidden.

Pueblo Indians, like more southern tribes, used feathers extensively for adornment, weaving strips of the skin, with feathers attached, into the fabrics of articles of attire. It seems perfectly logical that they would capture birds at the most favorable season and preserve the skins for future use.—C. E. H. AIKEN, *Colorado Springs, Colo.*

**An Unpublished Letter of John K. Townsend.**—In indexing the extensive historic correspondence of the Academy of Natural Sciences of Philadelphia, I found among other interesting letters one from John K. Townsend, written from Independence, Missouri, on the threshold of his expedition to the Pacific Coast with Thomas Nuttall. It was addressed to Dr. Thomas McEuen, at that time (1834) Recording Secretary of the Academy.

As the letter contains some information on the abundance of Prairie Chickens and Sandhill Cranes at that rather remote period, Dr. Witmer Stone suggested that readers of 'The Auk' would find it of interest and value. The Dr. Morton referred to in the letter was Dr. Samuel G. Morton, the anthropologist, later President of the Academy.

Independence, Mo.

Ap 23rd 1834.

Dear Dr.

My family will send you a few birds that I shot on my way to this place. I am sorry there are not more of them but my mode of travelling from St. Louis to this place (on foot) prevented my carrying a number of rare ones that I shot. I found the Prairie Hens immensely numerous some miles below & could easily have prepared some but I expected to find them as abundant here & concluded not to encumber myself with them;—I have been very much disappointed therefore in not being able to find one in the neighborhood. They are said to inhabit the prairies about 8 miles above, but since our arrival here I have been so constantly engaged in preparing for the journey that I have not had time to look after them.

I have seen a number of Sandhill Cranes but always flying high—they are said to alight at night in heavy marshes in the neighborhood of streams, but are seldom seen resting during the day. I have offered a reward for the capture of one, but none have yet been brought me.

The small Finch which I send is new to me. It is, I believe a true *Emberiza*, perhaps allied to the *lapponica*.<sup>1</sup> Inhabits the prairies in large flocks is very shy & sings when rising like the *Anthus*—The specimen is a very indifferent one but I shall no doubt be able to find others. The larger Finch I am also unacquainted with, but think it possible it may be the *F. leucophrys* in imperfect plumage,<sup>2</sup>—Should it prove to be new however, you may, if you think proper, read the inclosed description before the Academy.

The Small Woodpecker may or may not be the *P. varius*, it resembles it in general appearance but I think the plumage differs widely from it, the tongue of this bird is *rounded* at the end & *fimbriated*, whereas that of *P. varius* is, if I recollect, *sagittate*. The few birds that may remain after selecting what may be wanted for the Acad. I should be obliged if you would return to my father who has been directed as to the disposition of them—those that I shall send in future you will please retain for me, or dispose of them, when it can be done advantageously.

If Dr. Morton shall have returned please remember me particularly to him.

Mr. Nuttall sends his Complts.

Very truly yours

J. K. Townsend

I open my note to make a remark upon another Finch that I have just killed. I am not acquainted with it—May it not be one of the dubious species of Pennant. It is marked No. 8.<sup>3</sup>

J. K. T.

—JAMES A. G. REHN, *Academy of Natural Sciences of Philadelphia*.

<sup>1</sup> This is probably the Chestnut-collared Longspur, which was described in 1837 by Townsend (*Journ. Acad. Nat. Sci. Phila.*, vii, p. 189) as *Plectrophanes ornata*. The description states it "inhabits the prairies of the Platte River." Dr. Stone and I have been unable to trace the specimen referred to in the letter.

<sup>2</sup> This may be Harris's Sparrow, which Nuttall in 1840 described as *Fringilla querula* (*Manual Ornith.*, second edition, Land Birds, p. 555), from several localities, one of which was "a few miles to the west of Independence, Missouri." We cannot trace the specimen mentioned, and the description referred to was not formally presented to the Academy.

<sup>3</sup> This specimen cannot be traced in the Academy collection.



#### RECENT LITERATURE.

**Muschamp's 'Audacious Audubon.'**—It might be supposed that with the numerous biographies of Audubon already on our book shelves, the subject had been exhausted, but Mr. Muschamp, in the present volume,<sup>1</sup> has demonstrated conclusively that this is not the case. Personally we have always felt that there had been too much of hero worship in connection with Audubon, and that the measure of the man himself had not been properly taken. His biographers have been friends and relatives, necessarily prejudiced, or scientific men seeking the detailed facts of his life. Now we have an analysis of Audubon, the man, by one who is not an ornithologist, not a scientist, and in no way beholden to his subject—but who finds in Audubon a remarkable character; not for his scientific knowledge—which was really not great; nor for his artistic ability—which was marked; but for his audacity in conceiving and carrying to completion a gigantic work, and in stimulating an interest in bird life the extent of which it is difficult to estimate.

The trait of audacity, says Mr. Muschamp, he possessed "to a veritably superhuman degree and through its possession he survived innumerable perils and triumphed over seemingly insurmountable obstacles and in the end achieved so far beyond the measure of his conscious talents—remarkable as they were, that even while he still lived he was recognized and crowned as one of the world's outstanding geniuses." Audubon does not suffer at Mr. Muschamp's hands, but the really important points in his character are constantly brought into prominence, while the hackneyed details of his life are touched upon only as incidental to a proper understanding of the man himself. The result is a fascinating biography which, throughout, holds the attention of the reader, and will undoubtedly bring to many thousands a vivid picture of a man of whom previously they knew little or nothing.

Mr. Muschamp's keen insight has picked out two of the most important factors in Audubon's success and pays them full credit—Madame Audubon, his step mother, and Lucy Bakewell Audubon, his devoted wife. He admits that the indulgence and generosity of the former to Audubon, the boy, was theoretically entirely wrong, but adds "one is forced to the conclusion that but for this very treatment, throughout those most impressionable years of his life, the spirit that was to gladden and enlighten the hearts and minds of millions of his fellow men would in all probability have been broken and crushed, and the bud that was John James Audubon would never have come to flower."

Of Lucy Audubon he truly says, "Audubon was three times blessed for

<sup>1</sup> *Audacious Audubon. The Story of a great Pioneer, Artist, Naturalist and Man.* By Edward A. Muschamp. Brentano's New York, pp. 1-312, five illustrations. Price \$3.50.

Lucy Bakewell Audubon not only loved him and had absolute faith in him, but in addition she was a very paragon of practicability. She took upon her shoulders virtually the entire responsibility of supporting herself and her children and carried the burden for many years, and when the time came it was Lucy Bakewell Audubon who provided the big part of the fund needed to launch John James Audubon upon his epochal undertaking."

We have to thank Mr. Muschamp not only for a fascinating sketch of a remarkable man but for the opportunity of viewing a familiar figure from a different point of view—through new glasses as it were, and his book will for these reasons attract the attention not only of ornithologists but of a great mass of readers who enjoy good writing and interesting personalities. A word must be said also on the thoroughness with which the author has covered the literature of his subject, for the chapter on bibliography and acknowledgements includes practically everything that has been written by or about Audubon. The publishers too have done their part, both in typography and binding, to produce an attractive volume.—W. S.

**Chapman's 'My Tropical Air-Castle.'**—In 1918 the reviewer prepared a report upon a collection of birds secured by an engineer of the Panama Canal and thinking that with the opening of the Canal there might be persons visiting the Zone who would desire a knowledge of its bird life, he included a list of all the species hitherto recorded from the territory. Little did he dream of the almost instant demand for his separata or of the wonderful developments along ornithological lines that have taken place in the few years that have intervened.

There has been established in the Zone, as most of our readers are aware, a research station where properly accredited students may be comfortably located on an island, Barro Colorado, covered by virgin forest, which is maintained as an absolute sanctuary under control of the Government, and conducted by the Institute for Tropical Research in America. Every year we find in one publication or another valuable contributions to science presenting the results of the intimate study of tropical wild life made possible by this station. And every year teachers and students in our universities and museums gain knowledge and inspiration from a personal contact with the tropics which formerly was unattainable.

Mrs. Bertha Bement Sturgess, realizing fully the demand for a Panama bird list, published last year her 'Field Book of the Birds of the Panama Canal Zone' and now comes Dr. Chapman's fascinating volume 'My Tropical Air Castle,'<sup>1</sup> in which he describes his experiences at Barro Colo-

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<sup>1</sup> My Tropical Air Castle. Nature Studies in Panama. By Frank M. Chapman, Curator of Birds in The American Museum of Natural History. Illustrated with drawings by Francis L. Jacques and from photographs by the Author. D. Appleton and Company. New York, London. MCMXXIX. Pp. i-xv + 1-417. Price \$5.00.

rado, which has become his winter residence, and where he has erected his "casa mia" on the very edge of the jungle so that various forms of tropical mammals and birds are his intimate companions. His long and varied experiences in tropical America—in the West Indies, Mexico and South America, and his well known literary ability have rendered him peculiarly well fitted for the preparation of this work, and he has produced one of the most delightful accounts of tropical wild life that has yet appeared, a book that holds the reader's attention from cover to cover.

In it we learn the history of Barro Colorado; a mountain top in the forest which by the damming of the waters has become an island in a lake. We follow the accounts of the strange tropical birds known to most of us only as stuffed specimens or inhabitants of our Zoos, but which at Barro Colorado may be studied as intimately as our door yard species at home. We read of Dr. Chapman's continued studies of the great tropical orioles, the Oropendolas, with their colonies of long pendant nests, swinging from the tree tops, and we see his interesting flash light photographs of the beasts that tread the trails of the forest near his cabin,—puma, ocelot, peccary and agouti, and enjoy his intimate accounts of the howling monkeys and coatis.

With the wonderful field for observation that surrounds him it is not surprising that Dr. Chapman has carried on some experiments and indulged in some theories regarding the birds of the tropics. Thus we find a chapter dealing with the sense of smell in the Turkey Vulture in which he, a staunch Audubonian, is tempted to differ from Audubon, and presents some very strong evidence in favor of the Buzzard's nose as against his eyes in the discovery of his food, although as he says the subject has not yet been exhausted. Another chapter deals with the vertical distribution and coloration of tropical forest birds and still another discusses the voices of birds of the tropics—but one must read the book to appreciate what a wealth of interesting information it contains. Besides Dr. Chapman's photographs there are many drawings of birds by Francis L. Jaques which add much to the attractiveness of the volume. The book is appropriately dedicated to Thomas Barbour and James Zetik "the builders" of Barro Colorado, and to Donato and Eminicia the "keepers of the castle."—W. S.

**'Carl Akeley's Africa.'**—While Akeley was not an ornithologist, there are few if any of our readers who are not familiar with his achievements as an explorer, taxidermist and photographer. His aim was not the scientific study of animals nor the building up of a series of study specimens but the preservation of African wild life in life—like reconstruction and in motion pictures, before civilization shall have made it a thing of the past. This became the chief object of his life and Africa became his ideal home-land. His wonderful reproductions of the wild life of Africa may be seen in the groups of the Field Museum, in Chicago, and in the African Hall of the American Museum, in New York, which has been named in his honor.

The present volume<sup>1</sup> by his widow, Mary L. Jobe Akeley, describes his last (fifth) African Exploration, the Akeley-Eastman-Pomeroy Expedition, organized to secure the necessary specimens for the completion of the African hall in the American Museum, and to further study the Gorillas of the Kivu mountain district. From this trip Akeley never returned, dying from fever soon after reaching the Kivu country.

Mrs. Akeley, who accompanied him, has written a graphic account of the expedition and has given us in this volume striking pictures of Africa and its wild animals, their hunting, and the preparation of the specimens.

The camps and daily routine of life are described with much detail, and one follows the search for a great bull giraffe, which is to be the central figure in the giraffe group, with intense interest, as well as the hunting of the African buffalo, the watching at the water holes and the "playing with friendly lions."

In the chapter entitled "The Swan Song of Old Africa" Mrs. Akeley presents the growing menace to wild life in Africa; the demands of agriculture and stock raising for the areas constituted as game preserves. Who can say what the future will bring forth or whether the efforts now being made for the preservation of the wild life of the British Empire will be successful. In Africa, as elsewhere, it is not going to be a conflict between the hunter and the conservationist but between civilization and the preservation of at least a part the wilderness.

While the bulk of the volume deals with the large mammals there is frequent mention of birds, the Turaco with its brilliant crimson wing patches, the brilliant Sun-birds and the White-necked Crows.

The descriptions and photographs of Africa will interest all classes of readers and hold the attention of all who enjoy travel and adventure, while they show incidentally what marked changes have already taken place since the time of Stanley and other pioneers. The book is handsomely gotten up and the illustrations well executed with an excellent portrait of Akeley as a frontispiece.—W. S.

**Chisholm's 'Birds and Green Places.'**—This volume<sup>2</sup> Mr. Chisholm has described as "a book of Australian nature gossip," and, so far as gossip makes interesting reading, the description is well merited. It is devoted to an account of the bird life of the great Australian state of Queensland which comprises some 670,000 square miles of territory, and whose birds,

<sup>1</sup> Carl Akeley's Africa. The Account of the Akeley-Eastman-Pomeroy African Hall Expedition of the American Museum of Natural History. By Mary L. Jobe Akeley, F. R. G. S. Foreword by Henry Fairfield Osborn. With Illustrations and Maps. Dodd, Mead & Company, New York. 1929, pp. i-xix+1-321. Price, \$5.00.

<sup>2</sup> Birds and Green Places. A Book of Australian Nature Gossip. By Alec H. Chisholm, Author of *Mateship with Birds*, *Feathered Minstrels of Australia* etc., sometime Editor of 'The Emu.' Profusely illustrated with photographs and two colored plates. London and Toronto. J. M. Dent & Sons, Ltd., New York: E. P. Dutton & Co., Inc. (1929), pp. i-xiv + 1-224. Price 15 sh. net.

we are told, "have scarcely been mentioned in print save through the medium of text books." Mr. Chisholm's familiarity with his subject and his literary ability enable him to tell us about these birds in anything but text book style, and he presents vivid pictures of the various species in their native haunts, which will appeal to all students of bird life.

Of the elusive Scrub Bird (*Atrichornis*) there is probably more life history in the pages of Mr. Chisholm's book than in all other literature combined. The extraordinary mocking ability of the Lyre Bird is described at length and we learn that it is able to mimic the human voice as do the Parrots. The various problems involved in the marvellous playgrounds of the Bower birds also come in for detailed consideration as well as the swarming of the Martins, which by the way are not Martins at all but Wood Swallows, a family peculiar to the old world—but one must read the book to realize the amount of interesting information that it contains.

We have several times in these columns criticised the killing of the Emus in Australia and Mr. Chisholm speaks very strongly on the same subject, although the bounty on the birds has now, we understand, been removed. After referring to the extinction of the Emus on King Island, Kangaroo Island and Tasmania, he says: "are we to permit the tragedy to reach its zenith in the case of the mainland bird?" We learn that Emus were first hunted for sport, then persecuted as destroyers of fences etc., and finally outlawed on suspicion of spreading the prickly pear cactus. Bonuses were paid on some 132,000 Emus and 100,000 eggs and "while the holocaust was in progress an entomologist found 2991 injurious caterpillars in the stomach of one Emu!"

A sheep grower is quoted by Mr. Chisholm as refusing to join in the extermination of the Australian Eagles, which are charged with the destruction of lambs, on the ground that "there's enough lambs for both me and the Eagle." Would that our wealthy Duck and Quail hunters and the salmon fishers of our northwest, would take such an attitude regarding our birds of prey instead of making every effort for their extermination!

Mr. Chisholm is already well known to the ornithological world as a bird photographer, author of 'Mateship with Birds' and as a former editor of 'The Emu', but this volume seems to be his greatest achievement, and we can recommend it heartily to all who would gain some knowledge of the bird life of the Antipodes. The book is well gotten up and illustrated with half-tones from photographs and colored plates of the Lyre bird and Paradise Parrot.—W. S.

**Scoville's 'Wild Honey.'**—This volume<sup>1</sup> of Mr. Scoville's is, we think, the best that he has produced. While there is plenty of local color and many amusing incidents the general tone is more serious and much interesting

<sup>1</sup> Wild Honey by Samuel Scoville, Jr. With Reproductions of Etchings by Emerson Tuttle. Boston. Little, Brown, and Company. 1929, pp. 1-203. Price \$3.00.



information is presented, drawn from the author's experiences while accompanying his friends of the Delaware Valley Ornithological Club and others on trips in search of nests and eggs, daily lists of birds or nature lore of other kinds. The chapters deal with his favorite tramping ground, the New Jersey Coast and the Pine Barrens; with the Okefinokee Swamp; with the lowlands of Virginia; and with the hill country of Connecticut and northern New Jersey.

Mr. Scoville has the gift of presenting nature to us in all her beauty and again and again there are paragraphs that recall vividly to memory experiences that we have all enjoyed. Of the singing of the Sparrows, for instance, he writes: "The Fox Sparrow of the Far North has a song whose notes are as rich and beautiful as gold. The minor cadences of the White-throated Sparrow, the silver flute notes of the Field Sparrow, which sings in the twilight, and the dreamy melody of the Vesper Sparrow are all beautiful; but the Pinewoods Sparrow has a mystery in his song that is not of earth."

All nature lovers will be interested and stimulated by reading 'Wild Honey' and doubtless it will enlist others in the growing army which is developing a love for the wilderness and a desire to see large portions of it preserved for posterity.—W. S.

**Hose's 'Field Book of a Jungle-Wallah.'**—Here we have another popular work<sup>1</sup> on wild life of the old world tropics in which Dr. Hose tells of the animal and plant life of Borneo where he has spent so large a part of his life as naturalist, explorer, and member of the supreme council of Sarawak. His researches and discoveries are well known to the scientific world and when he discusses bird life he speaks with authority. In the present volume he presents some vivid pictures of the shores of Borneo, the Baram River, and the jungle, which form an interesting narrative replete with discussions of the native birds which most Americans know only as inhabitants of our Zoos.

The peculiar habits of the Hornbills are described at length. The male, as is generally known, walls up the female in the tree hollow in which she is incubating and feeds her through the small aperture which is left for her bill but he tells us also that after the young are nearly ready to leave the nest and the female has broken her way out, the hole is again walled up and the young fed by the parents in the same way as the male cared for the female during incubation. He also states that seeds dropped by the birds germinate in the ground below and that the natives can judge the age of the young in the nest by the size of the resulting plants. Attention is also called to the oil secreted from the oil sac of these birds and its apparent function in preserving the color of the neck feathers. May it

<sup>1</sup> The Field-Book of a Jungle-Wallah being a description of Shore, River & Forest Life in Sarawak. By Charles Hose, Hon. Sc. D. (Cantab.) etc.. With frontispiece in colour, and Black-and-white Plates. London. H. F. & G. Witherby, 326 High Holborn, W. C., pp. 1-216. Price 12 sh. 6. d. net.

not also function in the preservation of the immense bill as suggested in the case of smaller birds by J. Eugene Law (Condor 1929, p. 148)?

Dr. Hose's book is well gotten up and fully illustrated in halftone with a colored frontispiece of the Bald-headed Shrike (*Pityriasis*).—W. S.

**Lowe's List of Birds Exhibited in the London Zoo.**—Nine editions of the list of vertebrates exhibited in the famous Garden of the Zoological Society of London have been published from 1862 to 1896, and we now have before us the tenth or centenary edition,<sup>1</sup> covering as it does the period of one hundred years since the founding of the Garden, 1828-1927. The second volume of the work is devoted to the birds and lists no less than 2330 species with numerous additional subspecies.

This volume is far more than the list that its title would imply. Under each species is a reference to the place of publication, the present day scientific name, some important synonyms and one or more vernacular names; also a brief statement of its range and references to publish figures. The importance and utility of such a work cannot be overestimated. Every keeper of a Zoo or curator of a museum will appreciate what it means to have before him at a glance the proper names both Latin and English of the great majority of the birds with which he has to deal and the time saved from library research is very great.

Dr. G. Carmichael Low, to whom we are indebted for the preparation of the bird volume, deserves the thanks of all ornithologists and curators for the great amount of painstaking work that he has expended in the compilation.—W. S.

**Recent Papers on Birds of Paradise.**—When Linnaeus named the first Bird of Paradise, and for many years thereafter, the civilized world knew nothing of these wonderful creatures except for the native-made skins which always lacked feet and caused the father of binomial nomenclature to give to his bird the name *apoda*.

Until quite recently our knowledge, while greatly increased, so far as the discovery of new forms was concerned, was still meagre as to personal experiences with these remarkable birds in their rugged and inhospitable island of New Guinea. No Americans I believe had penetrated to their haunts and a living Bird of Paradise in any American Zoo was indeed a *rara avis*. Last year however, the New York Zoological Society sent Mr. Lee S. Crandall, its Curator of Birds, to New Guinea, accompanied by Mr. J. E. Ward, of Sydney, Australia, with the result that no less than forty-two Birds of Paradise of eleven species were brought safely back to New York, where most of them are exhibited, while some were secured by the Zoological Gardens of Philadelphia and Washington. Mr. Crandall

<sup>1</sup>List of the Vertebrated Animals Exhibited in the Gardens of the Zoological Society of London, 1828-1927. Centenary Edition in three Volumes. Volume II. Birds By G. Carmichael Low, M.A., M.D., F. R. C. P., F. Z. S. Printed for the Society, and sold at its house in Regents' Park, London, N. W. 1929, pp. i-viii+1-832. Price 25 sh.

has published two accounts of his experiences which fully support the reputation of the country for difficulty of travel and inhospitality. One of these constitutes the November-December issue of the 'Bulletin of the N. Y. Zoological Society' while the other appears in the corresponding number of 'Natural History.' Both are illustrated by an abundance of photographs including portraits of the birds themselves taken in captivity but showing their characteristic attitudes and actions.

Mr. and Mrs. Rollo H. Beck also visited New Guinea in 1928 to secure specimens for the American Museum and an interesting account of their experiences appears in the same number of 'Natural History,' the illustrations including a colored plate of the new Bower Bird (*Xanthomelas bakeri*) discovered by Beck.—W. S.

**Shoffner's 'Bird Book.'**—This little volume,<sup>1</sup> by the organizer of the 'Farm Journal's' Liberty Bell Bird Club, is designed to furnish in compact form information desired by the school clubs and teachers all over the country, who apply to the 'Journal' for help in organizing and conducting bird clubs.

The topics covered in the forty odd chapters include, Migration, Mating, Nest and Eggs, Growth of Young, Structure, Color, Molts, Food, Sanctuaries, Bird Clubs, etc. Each topic is discussed in a separate chapter following which is another chapter containing questions and answers bearing upon it.

Mr. Shoffner has had much personal experience in stimulating popular bird study and in conducting bird sanctuaries and his little book should meet a general need. There are a number of half-tone illustrations.—W. S.

**Boas on the Structure of the Bird's Wing.**<sup>2</sup>—This is a detailed "biological-anatomical" study, with tables and comparisons, of the skeletal and muscular structure of the wing in the principal groups of birds. There are also twenty-four large plates showing different types of cervical vertebrae and the method of attachment of the cervical muscles in the various families. Text figures show the position and convolutions of the neck in several types of birds in performing characteristic actions and the relative position and movement of the vertebrae.

The paper is a most valuable contribution to avian anatomy.—W. S.

**Rowan on Manipulation of the Reproductive Cycle.**—It has long been realized that when we seek information on the stimulus to migration we must go deeper than the observation of the time of arrival and departure

<sup>1</sup> The Bird Book. A new book for bird-lovers, teachers and students, with more than 500 questions and answers. By Charles P. Shoffner. Richard Manson, Publisher. New York, pp. i-xi+1-335. Price \$2.00.

<sup>2</sup> Biologisch-Anatomische Studien über den Hals der Vögel, von J. E. V. Boas. Mit 23 Tafeln und 20 figuren im Text. Mem. del'Acad. Royal des Sci. et des Lettres de Danemark, Copenhagen, Sect. des Sci., 9me. serie t. I. No. 3., Kobenhavn, 1929.

of the transient bird. It has generally been recognized in recent years that the state of development of the sexual organs was intimately associated with migratory movements and it has been this phase of the subject, as well as the possible part that duration of light plays in stimulating migration, that has occupied the attention of Prof. Rowan and upon which he reports in the publication before us.<sup>1</sup>

He has for several years kept Juncos in open air aviaries at Edmonton, Alberta, fitted out with electric lights which enabled him to continue a brilliant illumination night after night, after sunset. Birds subjected to this additional period of light were killed at different stages of the experiments and microscopic examination of the testes made. It was shown that the normal rhythm of the reproductive organs could be interrupted almost at will by appropriate manipulation of lighting conditions, and the maximum development of the gonads was thus obtained three times and the minimum development twice, during a period of twelve months. However it was also shown that increase in activity, which accompanied increase in the period of illumination, was probably the real cause of development of the sexual organs, as the same results were obtained by compulsory activity of birds kept in the dark.

Birds liberated in a state of recrudescence or regression in the reproductive organs, departed from the neighborhood at once while those in a maximum or minimum condition showed no inclination to migrate and remained throughout the winter many hundreds of miles north of their normal wintering grounds. It is therefore suggested by Prof. Rowan that the stimulus to migration regularly lapses with the disappearance of the interstitial tissue. The details of the various experiments are exceedingly interesting and we shall look forward to the results of Prof. Rowan's further studies.—W. S.

**Hellmayr on Birds from Central Asia.**—In the paper<sup>2</sup> before us Dr. Hellmayr has reported on the collection of birds made by George K. Cherrie who accompanied Theodore and Kermit Roosevelt on their trip through Kashmir, Ladak and eastern Turkestan (Sinkiang) in 1925. Apparently no new forms are proposed but there is very full and helpful discussion of the relationship of the various species obtained, and a full review of the Himalayan Horned Larks for which the generic name *Chionophilos* is used in place of *Otocoris* on grounds of priority.

The paper is a valuable contribution to the bird literature of this remote country in which apparently only one American ornithologist, Dr. Wm. Louis Abbott, has previously collected.—W. S.

<sup>1</sup> Experiments in Bird Migration. I. Manipulation of the Reproductive Cycle: Seasonal Histological Changes in the Gonads. By William Rowan. University of Alberta, Edmonton, Alberta. With eleven plates. Proc. Boston Society of Natural History. Vol. 30, No. 5., pp. 151-208, pll. 22-32. October, 1929. Printed from the William Brewster Fund.

<sup>2</sup> Birds of the James Simpson-Roosevelts Asiatic Expedition. By Charles E. Hellmayr. Field Museum of Natural History Publ. 263. Zool. Series XVII, No. 3. Chicago, U. S. A., October 18, 1929, pp. 27-144.

**Roosevelts' 'Trailing the Giant Panda.'**—Just as the reports on the scientific results of their previous exploration in Asia are being published there appears this account<sup>1</sup> of the second Asiatic expedition of the Roosevelt brothers—the Kelley-Roosevelt-Field Museum Expedition, which penetrated into the wild portions of Yunnan and Szechuan, central China, where the object of the trip was attained in the shooting of a fine specimen of the giant panda of the bamboo jungles, discovered sixty years ago by Pere David, the French missionary scientist, but searched for in vain by subsequent hunters and naturalists. Suydam Cutting accompanied the Roosevelts as well as Herbert Stevens a well known British naturalist and explorer. There was also a scientific staff including Harold Coolidge, Russell Hendee, Josslyn Van Tyne and Ralph Wheeler. The latter party remained in Indo-China, where valuable collections were made, while the Roosevelt party pushed northward. It is the account of this portion of the expedition that is vividly described in the volume before us.

Anyone interested in exploration and travel will follow the account of this difficult trip with interest. There are constant descriptions of the people and the customs of the isolated region that the authors traversed, and pictures of the rugged and often desolate surroundings. The wild life was not abundant but always of interest, and the animals almost without exception of great rarity in collections. Besides the giant panda this is the country of the takin, serow, and ghoral and of many rare birds usually of desert types. An appendix gives a brief account of the principal game animals of the region while the volume is well illustrated by photographs taken by members of the expedition. The Roosevelts have added materially to our knowledge of a little known country and will make familiar to thousands of persons the giant panda and other animals of which they had probably never before heard.—W. S.

**Aves for 1928.**—Again it is our pleasure to congratulate Mr. W. L. Slater upon his invaluable compilation of the 'Aves' for the Zoological Record. This seems to be the only work of the kind which is able to furnish to the working systematist, in any field of zoology, a reasonably prompt summary of the work of his fellow investigators throughout the world, without which chaos in systematic work would result.

The ornithological section, which Mr. Slater has so ably handled for many years, comprises for 1928, 1319 titles, which are classified again under various headings as heretofore, making reference easy. Dr. Alexander Wetmore seems to lead the American ornithologists in the number of his contributions.

This necessary pamphlet may be obtained by bird students from the

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<sup>1</sup> *Trailing the Giant Panda.* By Theodore Roosevelt and Kermit Roosevelt with a frontispiece from a painting by Carl Runge and illustrations from photographs by Suydam Cutting and K. R. Charles Scribner's Sons, New York. London MCMXXIX. pp. 1-x + 1-278 colored frontispiece plate and map. Price \$3.50.



Zoological Society, Regent's Park, London N. W. 8, for 7 sh. 6 d., and it is to be hoped that ornithologists will give the Society the liberal support that it deserves in so generously assuming the greater part of the burden of the publication.—W. S.

**Hellmayr's 'Birds of the Americas. Part VI.'**—This part<sup>1</sup> of Dr. Hellmayr's continuation of Cory's work, he covers the remainder of the Mesomyodean Passeres—Pipridae, Cotingidae, Rupicolidae, and Phytotomidae. As previously stated Dr. Hellmayr considers that the character of the tarsal envelope as a distinguishing mark between the Tyrannidae and Cotingidae has been overestimated and therefore some of the genera placed by Ridgway in the latter family have been restored to the former. Two new forms are proposed in the present part: *Schiffornis turdinus panamensis* (p. 84) El Real, east Panama and *Attila spadiceus pacificus* (p. 140) Mazatlan, Mexico.

The plan of the work follows that of the previous parts including the very full and helpful foot-notes which Dr. Hellmayr inaugurated in the volumes for which he has been responsible. We congratulate him upon the excellent progress that he is making in his great undertaking which is invaluable to every worker on the Neotropical avifauna.—W. S.

**Collin's 'Index Ornithologicus.'**<sup>2</sup>—This, according to the author's announcement, is to be "a bi-monthly journal devoted chiefly to successive development of an avian nomenclator according to the present system." The present number is devoted exclusively to the genus *Montifringilla* the genotype of which is given, followed by a long list of synonyms, all with the necessary references. Following this are the species in alphabetical sequence with type locality, habitat, published plates, synonyms and many references. Synonyms appear also in their proper place alphabetically and other species, apparently wrongly referred to this genus, are also listed with reference to their proper positions.

Such a detailed "nomenclator" cannot help but prove very useful, but if only some ten actual species are to be presented in two months the work will not progress very rapidly.—W. S.

**Chapman on Birds from Mt. Duida.**—An ambition of long standing was realized by the American Museum of Natural History when in the autumn of 1928 it was enabled, through the financial support of Mr. Sidney F. Tyler, Jr. of Philadelphia, to send an expedition to Mt. Duida near the headwaters of the Orinoco. The expedition was headed by Mr.

<sup>1</sup> Catalogue of Birds of the Americas and the Adjacent Islands in the Field Museum of Natural History, etc. By Charles E. Hellmayr, Associate Curator of Birds. Part VI. Oxyruncidae, Pipridae, Cotingidae, Rupicolidae, Phytotomidae. Chicago, U. S. A. November 14, 1929, pp. 1-258.

<sup>2</sup> Index Ornithologicus sive Nomenclator Avium tum viventium tum fossilium Studio et Opera: Alb. Collin. Ano. I, No. I. *Montifringilla Brehm—M. walteri-Hart.* Kotka, 1929, pp. 1-18. Subscription 6 shillings or \$1.50 should be addressed to the editor Alb. Collin, Kotka, Finland.

G. H. H. Tate and accompanied by the museum's Ecuadorean collectors, A. and R. Olalla. It proceeded from Esmeralda to the table land of Duida; the period from October 1, 1928 to March 14, 1929 being occupied with the field work. A collection of 6748 birds was secured and in the present paper<sup>1</sup> Dr. Chapman describes 28 forms that prove to be new to science, and erects three new genera. The latter are: *Duidia* (p. 11) for a peculiar Swift shot on the summit of the mountain; *Roraimia* (p. 18) for the bird known as *Synallaxis adusta* Salv. & Godm., but which possesses characters different from those of *Synallaxis* or any allied genus; and *Waldronia* (p. 14) for a peculiar Hummingbird allied to *Polytmus*.

Dr. Chapman mentions that the upper life zone of Duida is almost purely Roraiman, showing a distinct relationship between these two remote mountain masses, but reserves a more detailed discussion for a future publication on the avifauna of the two regions.—W. S.

**Griscom on Guatemalan Birds.**—This paper<sup>2</sup> is based on a study of the collection of 8000 specimens obtained by A. W. Anthony for the late Dr. Jonathan Dwight and now, through the bequest of the latter, the property of the American Museum.

Several new forms are here described and other papers are to follow. The novelties are: *Chaemepelia minuta interrupta* (4); *Oreopeleia albifacies anthonyi* (p. 4); *Podilymbus gigas* (p. 5); *Pionus senilis decoloratus* (6); *Nyctidromus albigollis intercedens* (p. 8); *Caprimulgus ridgwayi minor* (p. 10); *Agyrtia candida pacifica* (p. 10); *Hylocharis leucotis borealis* (p. 10); *Piculus rubiginosus maximus* (p. 11); and *P. r. differens* (p. 11).—W. S.

**Murphy on *Pterodroma cookii*.**<sup>3</sup>—A study of the small Pacific petrels of the genus *Pterodroma* results in the discovery of a remarkable parallelism in their relationships to those shown by *Puffinus assimilis* as already explained by Dr. Murphy in a previous paper.

Two species are recognized, *P. cookii* (Gray) and *P. leucoptera* (Gould) the former divided into five and the latter into four subspecies, of which *P. c. orientalis* (p. 5) from 200 miles west of Callao, Peru, is described as new.—W. S.

**Murphy and Chapin on Birds from the Azores.**—A further collection of birds mainly from the islands of Fayal and Terciera, Azores, made by Jose G. Correia and sent to the American Museum of Natural History

<sup>1</sup> Descriptions of new Birds from Mt. Duida, Venezuela. By Frank M. Chapman. Amer. Mus. Novitates, No. 380. October 21, 1929, pp. 1-27.

<sup>2</sup> Studies from the Dwight Collection of Guatemala Birds. I. By Ludlow Griscom. Amer. Mus. Novitates, No. 379. October 17, 1929, pp. 1-13.

<sup>3</sup> Birds Collected During the Whitney South Sea Expedition. X. On *Pterodroma cookii* and its Allies. By Robert Cushman Murphy. Amer. Mus. Novitates No. 370. September 8, 1929, pp. 1-11.

is the subject of this report.<sup>1</sup> Thirty-five species or subspecies are represented of which *Gallinula chloropus correiana* (p. 7) Terceira and *Regulus regulus inermis* (p. 15) Pico Island, are described as new.

Most interesting to American ornithologists are the captures of a Pied-billed Grebe, a Killdeer and a Snowy Owl, none of which had ever before been taken in the Azores.—W. S.

**Linsdale on Birds of Eastern Kansas.**<sup>2</sup>—This is an ecological list based on an intensive study of the region about Geary, Doniphan Co., Kansas, from April, 1921, to May, 1925. The attempt is made to present the frequency of occurrence, relative abundance, local habitat, and annual cycle of activity of each species.

Relative frequency figures were obtained by dividing the number of days on which a species was seen by the number of days on which observations were made, and the Cardinal seems to have been the only species seen every day, scoring 100, while the English Sparrow comes next at 99.5. Mr. Linsdale has another short paper<sup>3</sup> on the relation between plants and birds in the same region.—W. S.

**Laing and Taverner on Birds of the Chitna River Region.**—This is a fully annotated list<sup>4</sup> of the birds obtained and collected in the Mt. Logan Expedition to Alaska which Mr. Laing accompanied as naturalist. There are notes on eighty-five species covering interesting facts in their life histories, and critical observations on some of the specimens secured.

In the latter we find constant omission of verbs, articles, etc. and while such abbreviation may be justified in hasty field notes it seems inexcusable in a formal published report and will render the notes well nigh unintelligible to any but English speaking people. A report on the mammals by Messrs. Laing and Anderson follows the birds.—W. S.

**Peters on Honduras Birds.**—In this paper<sup>5</sup> Mr. Peters reports on a collection of birds made by himself and Mr. Edward Bangs in the vicinity of Lancetilla, Honduras, January 13–April 2, 1928, for the Museum of Comparative Zoology. The list is well annotated and in many cases the related subspecies are considered and compared with the Honduras form.

<sup>1</sup> A Collection of Birds from the Azores. By Robert Cushman Murphy and James P. Chapin. Amer. Mus. Novitates. No. 384. November 6, 1929, pp. 1–23.

<sup>2</sup> Birds of a Limited Area in Eastern Kansas. By Jean M. Linsdale. Univ. of Kansas Science Bull., Vol. XVIII, No. 11, April, 1928, pp. 517–626.

<sup>3</sup> Relations Between Plants and Birds in the Missouri River Region. By Jean M. Linsdale. Ibid. No. 10, April, 1928, pp. 499–515.

<sup>4</sup> Birds and Mammals of the Mount Logan Expedition, 1925. By H. M. Laing, P. A. Taverner and R. M. Anderson. Annual Report National Museum of Canada for 1927. pp. 69–95.

<sup>5</sup> An Ornithological Survey in the Caribbean Lowlands of Honduras. By James L. Peters. Bull. Mus. Comp. Zool., Vol. LXIX, No. 12, October, 1929, pp. 397–478.

The following are described as new: *Odontophorus melanotis verecundus* (p. 404); *Rhynchortyx cinctus pudibundus* (p. 405); and *Automolus ochrolaemus amusus* (p. 441), all from Lancetilla and *Glyphorhynchus spirurus sublestus* (p. 443) and *Tanagra gouldi praetermissa* (p. 470) from Panama.—W. S.

**Austin on Birds from British Honduras.**<sup>1</sup>—Mr. Oliver L. Austin, Jr. accompanied Mr. Gregory Mason on the Mason-Blogett Expedition to Central America in the spring of 1928 and secured a collection of the birds of the Cayo District of British Honduras for the Museum of Comparative Zoology, upon which he bases this report. Lists of characteristic species of each of the areas into which the region may be divided ecologically—the rain-forest, transition and pine-ridge areas, are given, and then follows a systematic list of the species, forty of which had not heretofore been reported from British Honduras. *Lepidocolaptes souleyetii decoloris* (p. 380) and *Turdus assimilis parcolor* (p. 386) are described as new.—W. S.

**Bullock on Birds of Angol, Chile.**—Mr. Bullock, Director of the Agricultural School at Angol, has prepared an excellent annotated list<sup>2</sup> of the birds found in the immediate vicinity of Angol illustrated by many half tones of nests and eggs. Another brief paper<sup>3</sup> gives an account of the birds observed on the Nahuelbuta Mountains, Chile.

Ninety-nine species are listed in the first paper and thirty-seven in the other.—W. S.

**Lönnberg on the African Fauna.**—In this paper<sup>4</sup> Dr. Lönnberg discusses the relationship and distribution of the vertebrate fauna of Africa in great detail, as well as the physical features of the continent in the present and past geological ages, and the effect of climatic change on the animal and plant life. His conclusions are that, during the early Tertiary, Africa was covered by a vast evergreen forest inhabited by an endemic forest fauna with many types common to southern Asia. In the Pliocene the climate became dry and most of the forest was destroyed, the forest animals taking refuge in the remaining forest "islands." At the same time a broad land-bridge connected Africa with Asia and there was a great invasion of animals of the Steppe fauna into Africa.

At the beginning of the Pleistocene a rainy period set in and much of the forest was renewed while the Steppe fauna was divided and isolated, as the forest fauna had previously been. The present forest fauna is

<sup>1</sup> Birds of the Cayo District, British Honduras. By Oliver L. Austin, Jr. Bull. Mus. Comp. Zool. Vol. LXIX, No. 11, September, 1929, pp. 363-394.

<sup>2</sup> Aves Observadas en los Alrededores de Angol por Dillman S. Bullock, Revista Chilena de Hist. Nat., Año XXXIII (1929), pp. 171-211.

<sup>3</sup> Aves de los pinares de Nahuelbuta. Por Dillman S. Bullock. Ibid, pp. 121-127.

<sup>4</sup> The Development and Distribution of the African Fauna in Connection with and Depending upon Climatic Changes. By Einar Lönnberg. Arkiv för Zoologi Band 21 A. No. 4. 1929. pp. 1-33.

therefore of double origin, partly descended from the endemic fauna and partly from Steppe forms which had adapted themselves to forest life, while the present Steppe fauna is similarly explained. The isolation in past times has resulted in the presence of closely related subspecies in widely separated regions.—W. S.

**Thomson on the Migration of the European Woodcock.**—This paper<sup>1</sup> deals mainly with the movements of the bird in Great Britain and Ireland and is based upon banding returns. It is found that a majority of the individuals are resident but that possibly one-third are more or less migratory. There is a well-marked autumn movement from Scotland and the north of England to Ireland, while some individuals pass on to the continent. Curiously enough, however, there is no evidence of a return to the place of origin.

It is admitted that various artificial factors enter into the record, especially the shooting on the home estate, so that the data cannot be treated statistically. Ninety-five per cent of the recoveries relate to the first four years of the birds' lives but certain individuals are found to live to eight, eleven, twelve and even twelve and a half years.—W. S.

**Recent Papers by Austin Roberts.**—Several papers on African birds by Austin Roberts have appeared within the past few years. One<sup>2</sup> consists of corrections to his 'Synoptic Check-list,' with descriptions of several new forms and two new genera; *Criniferoides* (p. 218) for *Chizaerhis leucogaster* and *Caloardea* (p. 219) for *Ardea leuconotus*. A second paper<sup>3</sup> contains descriptions of eggs of a number of African species while a third<sup>4</sup> is a report on a collection of birds and mammals from southwestern Africa, obtained by M. R. D. Bradfield. In this a new genus, *Chapinortyx* (p. 291), is proposed for *Francolinus harillaubi* and seven new subspecies are proposed belonging to the genera: *Chapinortyx*, *Psammodactylus*, *Melig-notheres*, *Sabota*, *Fringillaria* and *Ortygornis*.

A fourth<sup>5</sup> paper contains new forms of *Pternistes*, *Chaetopus*, *Epi-cypselus*, *Hyphantornis*, *Ortygospiza* and *Apalis*.—W. S.

**Tugarinow on the Birds of North Mongolia.**—This is an account<sup>6</sup>

<sup>1</sup> The Migrations of British and Irish Woodcock: Results of the Marking Method. By A. Landsborough Thomson. British Birds XXIII, No. 4. September 2, 1929, pp. 74-92.

<sup>2</sup> Some Changes in Nomenclature, New Records of Migrants and New Forms of South African Birds. By Austin Roberts. Ann. Transvaal Mus., XI, Part IV, 1926, pp. 217-226.

<sup>3</sup> Descriptions of Some S. African Birds' Eggs. By Austin Roberts. Ibid, pp. 226-244.

<sup>4</sup> Birds and Mammals from Southwest Africa. By Austin Roberts. Ibid, XII, Part IV, 1928, pp. 289-329.

<sup>5</sup> New Forms of African Birds. By Austin Roberts. Ibid, XIII, Part II, pp. 71-81. 1929.

<sup>6</sup> North Mongolia and its Birds. By A. J. Tugarinow. Acad. of Sciences of the Union of Soviet Republics. "Materiaux" Vol. 2 (?) 1929 (?) pp. 145-236. [In Russian with an English Resumé.]



of the expedition of the Russian Academy of Sciences through northern Mongolia. The physical features of the country are described and the character of the vegetation. There follows a systematic list of the birds and a consideration of the several zoogeographic regions with their characteristic species. There are fourteen photographs of the country and a map, the report forming a valuable contribution to a region that has been but little studied.—W. S.

**Ivanow on Birds of the Yakutsk District.**—In this paper<sup>1</sup> there is presented a study of the birds of the immense republic of Yakutsk which covers some 570,000 square kilometers. It is based upon the author's personal experiences as a member of the Expedition of the Russian Academy, and the various collections from the region contained in several Russian institutions. The district is divided into three areas, the elevated portions of the Verkhoyansk Mountains, the Lena-Amga area on the left shore of the Lena, and the Aldan-Maya area in the southwestern section which has a very distinct fauna belonging more properly to a different zoographical province. There follows a well annotated list of 198 species, and others apparently observed by other explorers. Mr. Ivanov has made a valuable contribution to the natural history of the region.—W. S.

#### Shorter Papers.

**Bangs, Outram.**—A Trembler New to Science. (*Proc. New England Zool. Club*, XI, pp. 39-41. August 30, 1929.)—*Cinclocerthia ruficauda sola* (p. 40) based on an old Lafresnaye specimen labeled as from Guade-poupe but probably from some small neighboring island.

**Bangs, Outram.**—An Undescribed Form of the Greater Vasa Parrot. (*Proc. New England Zool. Club*, XI, pp. 49-50. October 31, 1929.)—*Coracopsis vasa wulsini* (p. 50) from western Madagascar, but Mr. Bangs has apparently been anticipated by a few weeks by M. L. Lavauden who has described what appears to be the same form in 'Alauda' for September 10, naming it *C. v. drouhardi*.

**Bond, James.** A New Tanager from the Massif de la Selle, Haiti. (*Proc. Acad. Nat. Sciences, Phila.* LXXXI, pp. 473-474. October 3, 1929.)—*Calyptophilus frugivorus selleanus* (p. 473).

**Chapin, James P.**—A New Bower-bird of the Genus *Xanthomelus*. (*Amer. Mus. Novitates*, No. 367. August 9, 1929, pp. 1-3.)—*X. bakeri* (p. 1.) from Madang, New Guinea.

**deSchauense, R. M.**—Description of a New Form of Bhringa from the Hills of Northern Siam. (*Proc. Acad. Nat. Sciences, Phila.*,

<sup>1</sup> Birds of the Yakutsk District. By A. Ivanow Academy of Sciences of the Union of Soviet Republics. "Materiaux" Vol. 25. pp. 1-206. fourteen illustrations. [In Russian with an English resumé.]

LXXXI, pp. 475-476. October 3, 1929.)—*B. remifer latispatura* (p. 475 from Doi Soutep, Chieng Mai. N. Siam.

**Dickey, Donald R. and van Rossem, A. J.**—The Races of *Lampornis viridipallens* (Proc. Biol. Soc. Washington, Vol. 42, pp. 209-212. September 10, 1929.)—Four recognized of which *L. v. connectens* (p. 209) from Los Esesmites El Salvador and *L. v. nubivagus* (p. 210) from Volcan Santa Ana, El Salvador, are described as new.

**Force, Edith R.**—The Birds of Tulsa County, Oklahoma and Vicinity. (Univ. of Oklahoma Bulletin, N. S. No. 456. November 15, 1929, pp. 67-72.)—A nominal list with character of occurrence.

**Friedmann, Herbert.**—The Gloriosa Race of *Ixocinclia madagascariensis*. (Proc. Biol. Soc. Washington, Vol. 42, pp. 215-216. December 4, 1929.)—*I. m. grotei* (p. 216) Gloriosa Island.

**Friedmann, Herbert.**—Notes on East African Birds with Descriptions of Two Forms New to Science. (Proc. New England Zool. Soc. XI, pp. 29-33. August 6, 1929.) The races of *Rhinopomastus minor* are considered and *R. m. extimus* described as new (p. 29) from Dodoma, Tanganyika. The geographic variation in the size of the bill in *Bycanistes cristatus* is also discussed with *B. c. brevis* as a new form (p. 32) from the Usambara Mts., Tanganyika.

**Friedmann, Herbert.**—Two East African Barbets. (Proc. New England Zool. Club, XI, pp. 35-36. August 6, 1929.)—*Tricholaema diadematum mustum* (p. 35) Guaso Nyiro River, Kenya Colony and *Pogoniulus bilineatus conciliator* (p. 36) Uluru Mts., Tanganyika.

**Hartert, Ernst.**—On Various Forms of the Genus *Tyto*. (Novitates Zoologicae XXXV, No. 2, pp. 93-104. September, 1929.)—Thirty-three subspecies of *Tyto alba* are recognized or indicated of which *T. a. stertens* (p. 98) from India *T. a. kuehni* (p. 99) from Kisser and probably Timor and *T. a. everetti* (p. 99) from Savu. Of *T. longimembris* five forms are differentiated of which *T. l. papuensis* (p. 103) from New Guinea and *T. l. chinensis* (p. 104) from southern China are described as new. Specimens are still wanting from Indo-China, Celebes the Sunda Islands and Moluccas.

**Hering, Herman.**—Senator Wilhelm Dettmann and his Work. (Schrift. Nat. Vereins für Schleswig-Holstein. XVIII, Heft 2. 1928.)—A sketch of the Lauenburg ornithologist, with a catalogue of his collection.

**Kuroda, Nagamichi.**—On the Avifauna of the Riu Kiu Islands (Proc. Third Pan-Pacific Science Congress, Tokyo, 1926.)—A brief resumé of the subject.

**Lönnerberg, Einar.**—A New Nightjar from Haiti. (Arkiv for Zoologi. Band 20B, No. 6, March 18, 1929, pp. 1-3.)—*Antrostomus ekmani* (p. 1.)

**More, R. L. and Streker, John K.**—The Summer Birds of Wilbarger County, Texas. (*Contributions from Baylor University Museum*. No. 20. September 10, 1929, pp. 1-16.)

**Peters, James L. and Griscom, Ludlow.** The Central American Races of *Rupornis magnirostris* (*Proc. New England Zool. Club*, XI, pp. 43-48. August 30, 1929.)—Eight races recognized of which *R. m. direptor* (p. 46) from Guatemala; *R. m. arguta* (p. 46) from Almirante, Panama and *R. m. alia* (p. 48) from the Pearl Islands, Bay of Panama, are described as new.

**Riley, J. H.**—A New Wren of the Genus *Spelaeornis* from Yunnan, China. (*Proc. Biol. Soc. Washington*, Vol. 42, pp. 213-214. October 17, 1929.)—*Spelaeornis rocki* (p. 214).

**Schorger, A. W.**—The Birds of Dane County, Wisconsin. (*Trans. Wisconsin Academy of Sciences, Arts and Letters*, Vol. XXIV, pp. 457-499.)—An excellent annotated list with illustrations of nests. The paper is to be completed in another installment.

**Stegman, B.** The Palaearctic Forms of the Merlin. (*Bull. Acad. of Sciences de l'Urss*. 1929, pp. 585-598.)—Six forms are recognized, all subspecies of *Aesalon columbarius*, *A. c. pacificus* (p. 591) from the Sea of Ochotsk is described as new. [In German.]

**Witherby, H. F.**—The Moults of the European Passeres. (*Jour. f. Ornith.* 1929, Band 2, pp. 236-248.)—In this paper Mr. Witherby presents in tabular form the results of his studies, so far as they have gone, explaining in the introduction that they are far from complete. They will, however, be of great value to all students of plumages. In three columns are given the character of the autumn (= post nuptial) spring (= prenuptial) and juvenile (= post juvenal) molts. The results of his studies conform in the main to those of the reviewer<sup>1</sup> and of the late Dr. Jonathan Dwight,<sup>2</sup> based upon North American species, although there seems to be no European Finch with a complete prenuptial molt such as is found in our Sharp-tailed Sparrow. The same delayed molt in the Swallows is found in European species as in American, and the same extensive prenuptial molt in the Pipits. The complete post-juvenal molt is limited to certain Fringillidae and Hirundinidae and the genera *Sturnus* and *Panurus*, which is also the case in America, with the exception of *Panurus* which of course does not occur on this side of the Atlantic. It is also present in nearly all of our Icteridae, a family absent from Europe.—W. S.

<sup>1</sup> *Proc. Acad. Nat. Sciences of Philadelphia*, January, 1896.

<sup>2</sup> *Annals N. Y. Acad. Sciences*, October, 1900.

**The Ornithological Journals.**

**Bird-Lore.** XXXI, No. 5. September-October, 1929.

*The Philosophy of a Sanctuary.* By Mabel Osgood Wright.—“Live and let live” is Mrs. Wright’s very proper motto for her bird sanctuary but invading foxes have to be driven out and it is admitted that there are too many Wren boxes. The very safety of the sanctuary invites undesirable visitors and care must be taken not to increase any one species disproportionately.

*Speaking of Killdeer.* By L. D. Hiatt and F. R. Flickinger.—Admirable photographs and account of nesting, at Toledo, Ohio.

*Photographing Birds on a Farm in Eastern Washington.* By Grace Swan.

*A Race with a Rail.* By H. H. Pittman.—Photographing a nesting Sora.

In *Notes from Field and Study* are an account of snakes eating birds; observations on Hummers and other birds feeding at syrup bottles, which were painted bright red although Miss Sherman found this feature unnecessary.

In the Audubon Department is another of Dr. A. A. Allen’s excellent bird biographies—the Marsh Hawk. In this is a clear cut plea for sparing this attractive bird which, while it admittedly takes some young game birds, repays the theft by destroying thousands of mice. Will “sportsmen” never learn that control is always better than extermination, and will game commissions never drop the absurd term “vermin” as attached to our most striking and beautiful birds?

**Bird-Lore.** XXXI, No. 6. November-December, 1929.

*The Prairie Chicken of the Wisconsin Prairies.* By Alfred O. Gross.

*Herd the Birds.* By H. H. Pittman.—Driving Phalarope to within the range of the camera.

*A Hawk Turns.* By P. L. Martin.—Turns on pursuing Crows.

The migration and plumage notes refer to the Texas and Nuttall’s Woodpecker, with a colored plate by Sutton.

Dr. A. A. Allen has an interesting autobiography of the White-breasted Nuthatch, with many photographic illustrations.

The annual report of the National Association of Audubon Societies is as always full of interesting matter relative to the popularization of bird study and bird protection.

**The Condor.** XXXI, No. 5. September-October, 1929.

*The Role of the Runt: a Taxonomic Problem.* By J. Eugene Law.—After citing the parasites and other hindrances to development to which birds are subjected, it is contended that through such agencies there is great individual variation in any species and that any consideration of specific or subspecific characters based on averages is misleading. “To assess true values we must base our comparisons on the best that Nature has produced. The runt and all his subnormal brothers are pathological relicts and are not representative.”

Gleanings from Recent Bird Banding. By Joseph Mailliard.  
In Memoriam—Edwin Carter. By F. C. Lincoln.—A pioneer in Rocky Mountain natural history.

When a Nutcracker Becomes Tame. By Lila M. Lofberg.

A New Race of Black-chinned Sparrow from the San Francisco Bay District. By Alden H. Miller.—*Spizella atrogularis caurina* (p. 206).

The Spring Molt in *Zonotrichia*. By J. Eugene Law.—A careful and valuable contribution to a difficult subject. He finds that all species of this genus which he was able to examine possess a spring molt. The statement of the reviewer which he refers to, that spring molt had no bearing upon systematic relationship, was based mainly on the fact that our Sharp-tailed and Seaside Sparrows differ radically in this respect and yet have been regarded as closely related so far as other characters are concerned.

The Status of Some Pacific Coast Clapper Rails. By A. J. vanRossem.—The described "species" *levipes*, *beldingi* and *yumanensis* are all regarded as subspecies of *Rallus obsoletus* which seems a very reasonable conclusion even though, from the nature of the birds' haunts, they are necessarily isolated. They are in effect island forms with intergradation by overlapping of characters.

A Discussion of Faunal Influences in Southern Arizona. By J. Eugene Law.—A critique of Swarth's recent paper on the same subject which Mr. Law with his extended field experiences in Arizona is well equipped to discuss.

**The Condor.** XXXI, No. 6. November-December, 1929.

Bird Pollination Problems in California. By A. L. Pickens.—Relation of the white sage (*Ramona*) and Costa's Hummingbird is discussed and also the reaction of American birds to exotic flowers probably developed to aid pollination by foreign avian species.

Another Lewis Woodpecker Stores Acorns. By J. Eugene Law.

Reaction toward Capture among Certain Sparrows. By Joseph Mailliard.

Some Results of Bird Banding in 1928. By J. McB. Robertson.

**The Wilson Bulletin.** XLI, No. 3. September, 1929.

Harris's Sparrow and the Study of it by Trapping. By M. H. Swenk and O. A. Stevens.—An exhaustive study of the bird and the literature relating to it.

Bird Life of a Transient Lake in Kentucky. By Gordon Wilson.—A most interesting account of the water birds attracted to a rainwater lake which existed for only eleven months. Thirty-two species were noted where heretofore only some half dozen species had been anything but stragglers, and only twenty-eight had been recorded in a period twelve years.

**The Oölogist.** XLVI, Nos. 8, 9 and 10. August to October, 1929.



**The Cerulean Warbler** in Orleans Co., New York. By H. E. Hart.—Records of nests and eggs collected. (August.)

**Many Egrets.** By L. A. Lutringer.—Pennsylvania records. (October.)

**Ruby-throated Hummingbird Nests and Eggs.** By G. W. H. Vos Burgh. (August and October.)

**Four Brothers Gull Sanctuary,** Wellsboro, N. Y. By L. E. Fifield. (October.)

**The Material of a Wren's Nest.** By L. W. Chace.—559 pieces of material are listed. (October.)

**Bulletin of the Northeastern Bird-Banding Association.** V, No. 4. October, 1929.

**Contributions to the Knowledge of the Cape Cod Sterninae.** By O. L. Austin, Jr.

**Birds and Automobiles.** By Alexander Wetmore.—Cites the well known mortality and suggests that birds are attracted to roadways by injured insects previously struck by the cars, also that the mortality is greater in the summer when young birds are trying out their powers of flight and that all birds found on the road are not killed by cars, many being victims of telegraph wires, which they strike at night.

**Notes on Banding Terns at Chatham, Mass.** By C. B. Floyd.

**The Murrelet.** X, No. 3. September, 1929. [Mimeographed journal.]

**Changes in Bird Population.** By J. Hooper Bowles.

**Some Nesting Records from Alaska.** By E. H. Jones.

**Nesting of Wilson Phalarope in Yakima Co., Wash.** By J. B. Hurley.

**Feeding of Crossbills on aphides and dandelion seeds** is described by Theed Pearse.

**The Gull.** XI, Nos. 1-9. January-September, 1929.

This little organ of the Audubon Association of the Pacific keeps its members informed of the results of the meetings and field trips of the organization, with occasional longer articles:

**Unusual winter visitants in the San Francisco Bay Region.** (May.)

**Some Ecological Factors in the Life of a Quail.** By E. C. O'Roke. (August and September.)

**The Wren Tit.** A similar four-page bulletin of the Santa Clara Valley Audubon Society, San Jose, Calif.

**The Flicker.** A mimeographed journal, presents notes on Minnesota birds for the members of the Minnesota Bird Club.

**Aviculture.** The excellent avicultural monthly of America which is full of information about aviaries and the experiences of aviculturists with various exotic birds. The breeding of Red and Blue Macaws in captivity in the United States is described in the November issue.

**The Ibis.** (XII series) V, No. 4. October, 1929.

Some Remarks on *Hypselornis sivalensis* Lydekker. By Percy R. Lowe.—Is convinced that the type bone is not from a struthious bird at all and may belong to a reptile, possibly a Crocodile.

The Birds of Zanzibar and Pemba. By J. H. Vaughn. (to be continued.)—An account of these two east African islands and the first part of a systematic list of birds.

The Pecten Considered from an Environmental Point of View. By Arthur Thomson.—Grouping the variations in the pecten of the bird's eye according to the number of folds. The writer claims that they adapt it to subserve such functions as it may be called upon to exercise according to the environmental conditions amidst which the bird lives and flies. Dr. Casey Wood who classified the pectens on a rather different basis found that birds which fell into the same group had nothing in common except the character of the pecten. This arrangement, however, offers a possible explanation of the variability of structure.

An Ornithological Trip in the Gulf of Suez and Red Sea. By F. W. Borman.

Bibliographical Note on George Gray's 'Catalogue of the Genera and Subgenera of Birds'. By W. L. Slater.—A reprint of the "Addenda" contained in a copy of the 'List' in the Carnegie Museum at Pittsburgh but which are not known to occur in any other copy.

Dates of Arrival of Ring-Ouzel over Twenty-five Years. By H. W. Robinson.

A Spring Tour through Yugoslavia. By Claude B. Ticehurst and H. Whistler.—With a list of species observed.

Notes on Vol. VIII of the 'United States Exploring Expedition.' By T. R. Peale, published in 1848. By Gregory M. Mathews.—A list of the new forms described by Peale in this unfortunate publication which is so rare in libraries.

Obituary of E. Lehn Shioler.

**Bulletin of the British Ornithologists' Club.** CCCXXXV. October 31, 1929.

Lord Rothschild stated that *Casuarus bicarunculatus* and *C. casuaris* proved to be specifically distinct, forms of each having been found together, and exhibited drawings of various species of Cassowary.

H. Whistler describes *Parus major ziaratensis* (p. 7) from Baluchistan.

C. B. Ticehurst proposes *Falco tinnunculus japonensis* (p. 10) for *F. c. japonicus* preoccupied. Gregory Mathews proposes six new specific and subspecific names of Australasian birds and a new genus *Glyciphila* (p. 11) for *Glyciphila notabilis* Sharpe.

**British Birds.** XXIII, No. 4. September, 1929.

The Migrations of British and Irish Woodcock. By A. Landsborough Thomson. (See *antea* p. 117.)

**British Birds.** XXXIII, No. 5. October, 1929.

Montagu's Harriers at the Nest. By J. C. Harrison.—With delicate pencil drawings by the author.

Recovery of Marked Birds.—A long list.

**British Birds.** XXXIII, No. 6. November, 1929.

The Behaviour of Starlings in Winter (Part I). By V. C. Wynne-Edwards.—An intensive study of the bird in 3000 square miles in Devon and Cornwall in which eleven well marked Starling roosts are located. The good and bad characteristics of the bird in England are considered, and the history of the species. The enormous increase in its numbers, we learn, took place during the past fifty years. While the offensive character of the roosts in America is well known it would seem that the worst is yet to come, as the branches of trees in one of the English roosts are described as "hanging with filth and there was a black slime some two inches thick covering the ground while in some cases the depth may be three or four times as great at the end of winter."

Report on the Effect of Severe Weather in 1929 on Bird Life. By H. F. Witherby and F. C. R. Jourdain.

**The Avicultural Magazine.** (Fifth series.) VII, No. 9, 10 and 11, September to November, 1929.

Plates of *Ramphastos vitellinus*, *Calypomena viridis* and *Amazona imperialis*, the first two in colors, are presented in the three issues. There is an article on Dominica and the Imperial Parrot by Sydney Porter (October and November), a list of captive birds breeding in the Giza Zoological Gardens by F. W. Bowman and many others on various captive species.

**The Oölogists' Record.** IX, No. 3. September, 1929.

Something about Cyprus. By C. F. B.

Eggs of the Charadriidae. A compilation of data for eggs in various important collections.

**The Emu.** XXIX, Part 2. October, 1929.

Australia's Lorilet Puzzle. By A. H. Chisholm.—Shows that the proper name for the bird known as *Cyclopsitta maccoyi* Gould is *Opopsitta macleayana* (Ramsay).

Nesting Oddities. By M. S. R. Sharland.

Avifauna of the Hampton Tableland, Hampton Lowlands and Nullarbor Plain. By W. Stewart McColl.

The Genus *Corvus* in Australia. By A. G. Campbell.—Recognizes three forms *C. coronoides* the Crow; *C. c. bennetti* the small billed Crow and *C. australis* the Raven.

A Visit to Mud Island, By C. Bryant.

Notes on the White-winged Chough. By H. A. C. Leach.

Notes on a Trip to the Omeo District and Mt. Hotham, Northeastern Victoria. By G. W. Tranter.

Birds of the East Bogan District, County of Flinders, New South Wales. By E. C. Chisholm.

As usual the number is full of most attractive photographs of Australian birds and their nests.

**The South Australian Ornithologist.** X, Part 4. October, 1929. Birds Seen Between Penong and Adelaide. By J. B. Cleland.—Actual counts of individuals of each species, making an interesting basis of comparison for those who keep "daily lists" in America.

Birds of the Florieton District. By N. H. Pearse.

Birds of the Western District, Victoria. By C. Sullivan.

**The Bateleur.** I, No. 3. July, 1929.

A Short Holiday on the East Coast of Africa. By H. F. Stoneham.—An annotated list covering the district north of Mombasa.

On the Breeding of the Speckled Pigeon (*Columba guinea*) in trees in Kenya Colony. By C. W. Jeffery.

On the Breeding of *Lissotis melanogaster* and *Nesotis caffra* in Northern Uganda. By C. R. S. Pitman.

The Breeding of the Standard-wing Night-jar. By C. R. S. Pitman.

Notes on the Relationship of the Helmeted and Tufted Guinea-fowls. By H. F. Stoneham.—Discussion of Selater's arrangement of his "Systema."

**Alauda.** I, No. 3. August, 1929. [In French.]

Geographic Variation in *Aegithalos caudatus* in Western Europe. By Henri Jouard.—*A. c. bureaui* (p. 153) eastern Pyrenees; *A. c. galliae* (p. 155) central and northwestern France; and *A. c. potyi* (p. 156) north-eastern France, are described as new. Photographs of skins, drawings and maps illustrate the paper.

**Alauda.** I, No. 4. September, 1929. [In French.]

Ornithological Notes from Morocco and Algiers. By F. C. R. Jourdain. Geographic Variation of *Parus palustris* in Western Europe. By Henri Jouard.—*P. p. darti* (p. 206) from northwestern France is described as new.

On the Rhythm of Egg-laying in Certain Birds. By H. Heim de Balsac.

A New Case of the Selection of the Nest of *Lanius excubitor* by the Cuckoo. By H. Heim de Balsac.

Description of Some New Birds from Madagascar. By L. Lavauden.—*Coracopsis vasa drouhardi* (p. 231) probably the same bird later described by Bangs (see antea p. 118); *Cossypha sharpei erythronota* (p. 232), and *Lophotibis cristata urschi* (p. 233).

**L'Oiseau.** X, No. 8. 1929. [In French.]

Notes on Rare or Little Known French Woodpeckers. By M. Legendre.

The Bird Life of the Department of Loir-et-Cher. By R. Reboussin.

The section of Aviculture contains an account of the Pigeons. By T. H. Newman.

**Le Gerfaut.** XIX, Fasc. 1 and 2. 1929. [In French.]

Some Interesting Nests found in the Region of Bouillon. By A. Galasse.  
Examination of the Belgian Rookeries in 1928. By C. Dupond. (Fasc. 1). Fasc. 2 contains a review of ornithological observations in Belgium and both numbers contain bird banding records.

**Journal für Ornithologie.** Festschrift (In honor of the seventieth birthday of Dr. Ernst Hartert). October 29, 1929. [In German, French and English.]

Besides a portrait and personal articles there are among others the following: The Biology of *Chaetura gigantea*. By M. Bartels, Jr. [In German.]

Migration Routes. By Geyr von Schweppenburg. [In German.]

The Breeding Birds of Cyprus. By F. C. R. Jourdain. [In English.]

On Heterogynism in Formicarian Birds. By C. E. Hellmayr. [In English.]—A term proposed for cases where the females possess well marked differential characters while the males are scarcely distinguishable, if at all. *Myrmotherula longipennis transitiva* (p. 47) Rio Madeira, Brazil; *Myrmoborus myotherinus incanus* (p. 55) Rio Solomoes, Brazil; *Schistocichla leucostigma rufifacies* (p. 64) Rio Tapajoz, are described as new in a review of some of the genera, presented with heterogynism in view and additional material available.

The Migratory Birds of French Indo-China. By J. Delacour. [In French.]

Our Knowledge of the Variation of *Ceryle maxima*. By A. Laubmann. [In German.]

On the Spring Migration on the West Coast of Finland. By Ivar Hortling. [In German.]

Some New Birds from North Borneo. By F. N. Chasin and C. Boden Kloss. Sixteen subspecies proposed. [In English.]

Birds of the Palaearctic Deserts. By F. Steindacher. [In German.]

The Breeding of the Least Whimbrel (*Mesoscolopax minimus*) in Yakut-Land. By A. J. Tugarinow. [In English.]

On the Phylogeny and Systematic Arrangement of the True Falcons. By B. Stegmann. [In German.]

Some Observations on *Tringa alpina* especially with regard to its Presence in Sweden. By Einer Lönnberg. [In German.]

The Cormorant in East Prussia. By F. Tischler. [In German.]—With photograph of nesting colony.

Eye-color as a Subspecific Character in *Colius striatus*. By James Chapin. [In English.]—Urges more attention to this and other characters by the field naturalist.

Notes on the Early Sources of our Knowledge of African Ornithology. By W. L. Selater. [In English.]

Contribution to our Knowledge of the Bird Life of the Islands of Alor and Lombien. By B. Rensch. [In German.]—An annotated list of



thirty-one forms with descriptions of *Philemon timoriensis plesseni* (p. 198) Lombok, Sunda Islands; *Anthreptes malaccensis convergens* (p. 200), *Dicaeum igniferum cretum* (p. 201) and *Pachycephala pectoralis jubilarii* (p. 202) from Alor. Also *Podiceps ruficollis vulcanorum* (p. 205) from Lombok.

How are Birds Affected by Salt-water? By H. Hildebrandt. [In German.]

The Migrations of Birds to Madagascar. By L. Levauden. [In French.]

The Moults of European Passeres. By H. F. Witherby. [In English.]

On the Ecology and Biology of the Bittern (*Botaurus stellaris*). By R. Zimmermann. [In German.]

Observations on the Group *Acrocephalus arundinaceus*. By Finn Salomonsen. [In German.]—Seventeen races recognized.

Suschkín's Goose (*Anser neglectus*) in Hungary. By J. Schenk. [In German.]—With a colored plate.

**Ornithologische Monatsberichte.** XXXVII, No. 4. July-August, 1929. [In German.]

The Formation of Lipochromes in the Feather. By H. Desselberger.

On Aviary Heat in Small Seed-eating Birds. By H. Schildmacher.—Effect on feeding and nourishment.

Observations on the Biology of Birds of Vuatom, Bismark Archipelago. By P. Otto Meyer.

On the Formenkreis *Aplonis cantoroides*. By Wilhelm Meise.

*A. c. heureka* (p. 111) is described as new from Mal, Minigo Archipelago.

In 'Short Notes' we find the following new forms described: *Urocynchramus pylzowi coloratus* (p. 116) Upper Blue River, Tze-schwan, by Tugarinow and Stegmann. *Turnix sylvatica bartelsorum* (p. 117) Java, by O. Neumann.

There is also an account of the banding of a number of Swifts (*Chaetura vauxi*) in winter, in Guatemala.

**Ornithologische Monatsberichte** 37, No. 5. September-October, 1929. [In German.]

Two papers on *Perdix perdix* and its races by F. Peus and W. W. Stantschinsky.

New Bird Races from Kwangsi. By E. Stresemann.—*Dendrocitta formosae schistacea* (p. 139), *Turdus cardis merulinus* (p. 140), *Babax lanceolatus latouchei* (p. 140) *Pteruthius aenobarbus yaoshanensis* (p. 140) and *Thringorhina guttata sinensis* (p. 141).

On the Breeding Habits of *Saxicoloides fulicata cambaiensis*. By H. Grote.

The Oystercatcher as a Nest Robber. By F. E. Stoll.

**Berichte des Vereins Schlesischer Ornithologen.** XV. Heft 2. September, 1929. [In German.]

A Contribution to the Biology of the Silisian Gull Colonies. By Richard

Stadie.—An important intensive study of the *Larus ridibundus*—abundance, distribution, plumage, food, parasites, etc., with many illustrations.

On the Biology of *Remiz p. pendulinus* in Silesia. By F. W. Merkel.

The Migrations of the Pelican in Europe. By Hans Stadler.

**Beiträge zur Fortpflanzungsbiologie der Vögel.** V, No. 4. July 1929. [In German.]

On the Bittern (*Botaurus stellaris*). By Paul Bernhardt.—With excellent photographs.

On the Breeding habits of species of *Agapornis* and *Loriculus*. By R. Neunzig.

Giant and Double Eggs, Normal Eggs, Dwarf Eggs and Abnormalities. By F. Dietrich.

Oölogical Researches on the Eggs of Some Water Birds. By M. Harms.

**Beiträge zur Fortpflanzungsbiologie der Vögel.** V, No. 4 [=5]. September, 1929. [In German.]

Nesting Habits of the Red-legged Partridge. By O. Reiser.

The Courtship of the Mallard. By Geyr v. Schweppenbourg.

**Beiträge zur Fortpflanzungsbiologie der Vögel.** V, No. 6. November, 1929. [In German.]

On the Pine Grosbeak. By Jarl Carpelan.

Observations on a Hawk Eyrie. By Paul Ruthke.

On Flight Play and Pairing of Palaearctic Birds in Java. By S. Spennemann.

On the Courtship of Ducks. By E. Christoleit.

**Der Ornithologische Beobachter.** XXVI, Nos. 8, 9, 10, 11, 12, and XXVII, No. 1. May to October, 1929. [In German.]

Bird-life in the Vicinity of Tunis. By A. Masarey.—Runs through all but the last issue.

Bird Observations on a Wet Meadow. By H. Hanni. (July.)

On our Tern Colony at Fanel. By E. Hanni. (August.)

Night Roost of the Tree Creepers. By A. Stierlin. (September.)

Fifth Report of the Swiss Bird Observatory at Sempach. By A. Schifferli. (October.)

**Ornis Fennica.** VI, No. 2. 1929. [In Finnish.]

A Widgeon (*Anas penelope*) with only one wing. By J. Kajaba and I. Hortling.

Bird Observations on the Aland Islands. By J. Snellman.

**Ornis Fennica.** VI, No. 3. 1929. [In Finnish.]

Notes on the Birds of Hailuoto (Karlö) 65° lat. Finland. By E. C. Stuart Baker. [In English.]

Contribution to the Knowledge of the Birds of Sodankyla, Lappland. By J. Karpelan.

**Aquila.** XXXIV-XXXV. 1927-1928 (1929). [In Hungarian and German.]

On the Status of the Egret Colony at Lake Balaton, Hungary. By J. Schenk.

Report on Bird Banding in Hungary for 1926-1927. By J. Schenk.

The Invasion of the Rosy Pastor in Hungary in 1924-1926. By J. Schenk.

Invasions of Waxwings in Hungary. By K. Warga.

The Pratincole and its emergence from the Egg. By F. Cerva.

The Swifts of Budapest. By H. Dorning.

The Distribution of the Serin in Hungary. By K. Mauks.

The Winter Quarters of *Branta ruficollis*. By N. Vasvari.

Migration Data for Hungary for the Year 1926. By K. Warga.

The Courtship of *Dendrocopos medius*. By Z. Szemere.

The June Food of the Rook (*Corvus frugilegus*). By T. Czorgey.

Food of the Bittern and the Little Bittern. By N. Vasvari.

**Ardea.** XVIII, Af. 1-2. May, 1929. [In Dutch.]

A Breeding Pair of the Herring and Lesser Black-backed Gulls. By N. Tinbergen.

Notes on *Eurylaemus javanicus* in Java. By K. W. L. Bezemer.

Notes on 1928 Breeding Birds of Holland. By G. A. Brouwer and on Migrants by F. Haverschmidt.

Bird Banding in 1927-1928.—In Holland.

Note on Instinct. By P. Tilma.

The Purple Sandpiper (*Calidris maritima*) on the Coast of Holland. By G. van Beusekom, Jr.—With an excellent photograph.

**Norsk Ornithologisk Tidsskrift.** III, No. 10, 1929. [In Norwegian.]

Fifty-nine years of Bird Watching by Thomas Jensen. By H. L. Lovenskiold.

Bird Life in the Vicinity of Florø. By B. Wilman.

The Ural Owl and its Nest. By G. Hov.

**Kocsag.** II, No. 2. 1929. [In Hungarian and several other languages.]

International Protection of Birds. By T. A. Coward.

The White-headed Duck (*Oxyura leucocephala*) in Hungary. By E. Greschik.—With a colored plate.

The National Parks of Italy for the Protection of the Fauna and Flora. By M. Mineo.

#### Ornithological Articles in Other Journals.

**Munro, J. A.** Glimpses of Little-known Western Lakes and their Bird Life. (*Canadian Field Naturalist*, September, 1929.)

**Mitchell, Margaret K. H.** Summer Birds of Miners Bay and Vicinity, Ontario. (*Canadian Field Naturalist*, October, 1929.)

**Brooks, Allan.** Pellets of Hawks and Owls are Misleading. (*Canadian Field Naturalist*, October, 1929.)—Claims that examination of pellets is no indication as to whether a Hawk eats birds as only the swallowing of fur or bones causes the formation of pellets. Captive Hawks tore away the flesh of small birds fed to them and eat no bones or feathers. This argument would seem to render futile all the work of the Biological Survey and similar investigations along these lines.

**Baillie, James L., Jr.** An Early List of Ontario Birds. (*Canadian Field Naturalist*, October, 1929.)

**Baillie, James L., Jr.** William Couper—Pioneer Canadian Naturalist. (*Canadian Field Naturalist*, November, 1929.)

**McWilliam, J. M.** Some Considerations on Bird Fluctuation. (*Scottish Naturalist*, May-June, 1929.)

**Baxter, E. V. and Rintoul, L. J.** Report on Scottish Ornithology in 1928. (*Scottish Naturalist*, July-August, 1929.)

**Ritchie, James.** The Gannets of the Bass Rock. (*Scottish Naturalist*, July-August, 1929.)—Five estimates of the number of birds present have varied from 6300 to 7500 with one of 10,000. Now we have a careful count of nests showing that in 1929 there were 8294 birds breeding on the rock.

**Ticehurst, C. B.** The Iceland Redpoll and its Occurrence in Scotland. (*Scottish Naturalist*, September-October, 1929.)

**Fisher, Arthur H.** Marajo, The Wonder Island of Amazonia. (*Bulletin of the N. Y. Zoological Society*, July-August and September-October, 1929.)—An account of an expedition to the island and the Para district, excellently illustrated with photographs taken on the trip and at the New York Zoo.

**Crandall, Lee S.** The Struthious Birds. (*Bull. N. Y. Zool. Soc.*, July-August and September-October, 1929.)—An admirably illustrated article covering all of the Ostrich-like birds in great detail.

**Jacques, F. L.** The Birds of Little Diomedé. (*Natural History*, September-October, 1929.) — With an account of the preparation of the group from this farthest west Alaskan island for the American Museum.

**Goodwin, George G.** Falconing. (*Natural History*, July-August, 1929.)—An excellent illustrated article on the subject.

**Holt, Ernest G.** Italiaya—Brazil's Most Famous Mountain. (*Natural History*, July-August, 1929.)—A region where the author made a notable collection of birds.

**Hoge, James F.** The Farmer and Game Conservation. (*American Forests and Forest Life*, September, 1929.)—Stresses the money value of game and incidentally the destruction of the enemies of game. Again the idea that every living thing that destroys game except man must be exterminated.

**Cox, William T.** Death Hurdles of the Sky. (*American Forests and Forest Life*, November, 1929.)—Danger of wires to flying birds.

**Buckingham, Nash.** A Study of the Blue Goose. (*American Game*, February-March, 1929.)—Banding on the Rainey Preserve, Louisiana.

**Allen, A. A.** Recent Developments in Grouse Studies. (*American Game*, April-May, 1929.)

**Brooks, Allan.** Should We Protect the Marsh Hawk? (*American Game*, October-November, 1929.)—Another protest against the reports of experts on the food of Hawks and Owls from examination of stomachs which the author states give very erroneous results. The Marsh Hawk he denounces as "the most destructive Hawk in all America to our marsh nesting water fowl for at least three months in the year." Yet if we advertise half a dozen Hawks as injurious and advocate their extermination we automatically doom all the others as farmers and game protectors cannot distinguish them. The farmers will kill these Hawks anyway so why hasten the destruction of all?



## OBITUARIES.

HENRY NEHRLING, a Fellow of the American Ornithologist's Union since 1883, died at his home at Naples, Florida on November 22, 1929. He was for some time curator of the Milwaukee Public Museum in his native state of Wisconsin, and author of a work in German on the birds of North America, of a sumptuous volume, with colored plates entitled 'Our Native Birds of Song and Beauty' and of a number of ornithological papers. While on the staff of the Philadelphia Commercial Museum in 1903 he attended the meeting of the American Ornithologists' Union but soon after removed to Florida where he has been completely out of touch with ornithologists.

ARCHIBALD JAMES CAMPBELL, fifth President of the Royal Australasian Ornithological Union and an Honorary Fellow of the American Ornithologists' Union, died at Melbourne, Australia, September 11, 1929, in his 77th year. He was born at Fitzroy, Melbourne, February 18, 1853, and at the age of 30 published a booklet entitled 'Oölogy of Australian Birds.' His *magnum opus* 'Nests and Eggs of Australian Birds,' in two volumes of over 1600 pages, published in 1901 at the age of 48, gave him a place among the leading writers on the birds of Australia and gained for him well deserved recognition abroad. In the following year he was elected a Corresponding Fellow of the American Ornithologists' Union and in 1921 was elevated to the class of Honorary Fellows. He was also elected a Colonial member of the British Ornithologists' Union in 1904. Mathews referred to him a few years ago as "the most famous living Australian oölogist, whose works are beyond praise."

Campbell was one of the founders of the Royal Australasian Ornithological Union, and in the opening article of the first number of 'The Emu' he has given a full account of the organization of the Union. He edited the first 13 volumes of 'The Emu' and was largely responsible for the character and standards of the journal. Besides contributing to its pages he found time to take an active part in the preparation of the official lists of Australian birds and to fulfill the duties of President in 1910. While his interests lay primarily in recording the nesting habits and life histories of birds, he did considerable systematic work and described a number of new forms, 36 of which may be found listed in Mathews' 'Bibliography of Australian Birds,' p. 24. He was a member of the "Observers Club" and the "Wattle League." Recently while assisting in the preparation of a new popular bird book he suffered a nervous breakdown from which he failed to recover. He was married twice and is survived by a daughter and two sons, one of whom, Archibald J. Campbell, has described a number of new forms of Australian birds.—T. S. P.

DR. JOHN ALBERT LEACH, a Corresponding Fellow of the American Ornithologists' Union since 1919, died in Melbourne, Australia, September 11, 1929, at the age of 59. He was born at Ballarat, Victoria, Australia, March 19, 1870, and at the time of his death was serving as President of the Royal Australasian Ornithological Union.

Doctor Leach was one of the most active members of the organization and served for ten years and a half, from 1914 to the close of 1924, as Editor of 'The Emu,' when increased administrative duties in the Department of Education of Victoria compelled the relinquishment of his editorial duties. It was largely due to his energy and literary ability that the high standard of the journal was maintained during these years. In recognition of his work the Royal Australasian Ornithological Union made him an Honorary Member in 1925 and later elected him to the presidency.

In addition to his numerous contributions to 'The Emu,' Leach was author of the 'Australian Bird Book,' a popular handbook issued in 1911 and republished in 1912, which had a wide distribution among the general public interested in bird life. Later, in 1922, he brought out 'Australian Nature Studies.' The three parts, 'Plant Life,' 'Animal Life,' and 'General Studies,' deal with various phases of wild life, and birds receive due consideration under the heading of 'Animal Life.'

In a recent letter Doctor Leach expressed his intention of making a visit to America in 1930, and it was hoped that the trip might be timed so as to permit his attendance at the next meeting of the Union, but unfortunately these plans were cut short by his fatal illness.—T. S. P.

ALFRED MARSHALL, an Associate of the A. O. U., died on March 24, 1929, at his home in Montrose, Baldwin County, Alabama, in his 62nd year. He was born in Brooklyn, N. Y., September 3, 1867, residing during his early life in Flatbush, a suburb of Brooklyn. During the '80s and early '90s of the last century he became interested in birds and gathered a collection of 333 skins, mainly taken by himself on Long Island. In 1896, this collection was presented to the American Museum of Natural History, through the Linnaean Society of New York. Marshall collected bird's eggs, also, specializing on the Raptores.

Removing to Chicago, Ill. about 1892, business interests occupied most of his energies and he ceased active collecting. He retired from business about 1913 and for a number of years traveled extensively in Europe, South America, and Canada. In 1917, he accompanied W. E. Clyde Todd, of the Carnegie Museum, on a trip across the Labrador Peninsula, bearing half of the expense of the expedition. The party, which included also O. J. Murie, left Clarke City, Quebec, on May 25, and after almost three months of strenuous work over a virtually unknown route, reached Fort Chimo on August 22. Mr. Todd writes as follows: "Mr. Marshall did his share of the work on this trip, but was disappointed over the outcome. He expected to get a lot of shooting, but there was practically none. He was an enthusiastic fisherman, and kept the party supplied with trout during the trip."

Marshall spent the last years of his life, since 1922, at his country home in southern Alabama, devoting himself during the season to hunting Quail and Doves. He carefully recorded the weights of all the Quail he shot.

He was a member of the Linnaean Society of New York, and on December 6, 1899, read a paper before the Society on the nests and eggs secured by him on Long Island during several seasons.

He is survived by his wife, Mary Sproule Marshall, two sons—Alfred, Jr., and George M.—and a sister Mrs. Albert Helmarth, of Summit, N. J.—ARTHUR H. HOWELL.

## NOTES AND NEWS.

OWING TO illness the Secretary of the Union, Dr. T. S. Palmer, has been unable to prepare the usual account of the Philadelphia meeting which took place October 21-24, 1928, and it will be deferred until the April issue of 'The Auk.'

We shall therefore at this time merely report that Dr. Joseph Grinnell was elected President, Mr. Arthur C. Bent, Vice-president and Messrs. James P. Chapin and James L. Peters members of the Council, the other officers remaining the same.

Dr. Herbert Friedmann, Mrs. Florence Merriam Bailey and Dr. Thomas Barbour were chosen Fellows.

THE LONDON FIELD for July, 1929 says: "In our Issue of last week we gave an account of some of the rarer birds belonging to the late Mr. J. B. Nichols's collection which were to be sold by auction on June 11th, 1929 and referred to an example of the Great Auk as the gem of the collection. At the time of going to press the result of the sale was not known; but we have subsequently learnt that the Great Auk changed hands at £660, which is more than twice the sum it was sold for in 1902. It is not only a record price for this species, but a record price for any other bird alive or dead that has ever been put on the market. The box of bones, including the skull, of a Great Auk, to which we also referred, and a model of the egg fetched £6 10s."

AN ACCOUNT of the unusual movement or migration of Canada Jays that has been taking place since last summer and is still going on is being prepared by Harrison F. Lewis, National Parks of Canada, Ottawa, Canada, who will appreciate any information, however scanty, relating to this subject.

MR. WILFRED W. BOWEN who accompanied Mr. N. Prentiss Gray on an expedition to East Africa and Angola in the interests of the Academy of Natural Sciences of Philadelphia, has returned with a valuable collection of birds. Mr. William Jenks Woolston, who accompanied by Mr. Francis Harper, made a summer tour of the lower Texas coast secured a fine collection of water birds for the same institution.

MR. JAMES BOND has returned to the West Indies to continue his investigation of the bird life of the islands during the winter and spring.

DR. A. K. FISHER has returned from an expedition to the Galapagos Islands and other groups in the South Pacific undertaken by Hon. Gifford Pinchot. Dr. Fisher we understand secured an interesting series of birds for the U. S. National Museum.

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The plan of offering for sale separates of the leading articles in 'The Auk' has been discontinued as there was not sufficient demand to make it worth while. We have on hand from 25 to 50 copies of most of the articles from April 1920 to October 1928. Anyone desiring to obtain such lots of his own or other papers at a nominal price should apply at once to the Editor as after a short time the pamphlets will be disposed of.



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**Index to The Auk.** (Vols. XXVIII-XXXVII, 1911-1920), 8vo. pp. xviii+339. 1929. Cloth \$5.00. Paper \$4.00.

**Check List of North American Birds.** Second Edition, revised, 1895. Cloth, 8vo. pp. xi+372. \$1.15.

**Code of Nomenclature.** Revised Edition, 1908. Paper, 8vo. pp. lxxxv. 50 cents.

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